

DEPARTMENT OF THE NAVY

BASE REALIGNMENT AND CLOSURE PROGRAM MANAGEMENT OFFICE WEST 1455 FRAZEE RD, SUITE 900 SAN DIEGO, CA 92108-4310

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Ms. Alana Lee (3 copies; 1 CD)
U.S. Environmental Protection Agency
Region IX
75 Hawthorne Street, SFD-73
San Francisco, CA 94105

Ms. Adriana Constantinescu (1 copy; 1 CD) Regional Water Quality Control Board San Francisco Bay Region 1515 Clay Street, Suite 1400 Oakland, CA 94612

Dear Ms. Lee and Ms. Constantinescu:

I am pleased to submit to you the *Final Site 1 Landfill 2004 Annual Report* for the former Naval Air Station (NAS) Moffett Field, Moffett Field, California. If you have questions or comments, please contact Mr. Glenn Christensen at (619) 532-0924 or myself at (619) 532-0952

Sincerely,

"Signature on file"

RICHARD WEISSENBORN
BRAC Environmental Coordinator
By direction of the Director

Enclosure: 1. Final Site 1 Landfill 2004 Annual Report dated December 2, 2005

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Copy to: (w/encl) Mr. Don Chuck (3 CDs) NASA M/S 218-1 Ames Research Center Moffett Field, CA 94035

Mr. Chris Rummel (1 copy, 1 CD)
Santa Clara County
Department of Environmental Health
Environmental Resources Agency
Solid Waste Enforcement Program
1555 Berger Drive, Suite 300
San Jose, CA 95112-2716

Mr. Dan Buford (CD)
Endangered Species Div., Room W-2605
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825

Mr. Bob Moss (CD) Barron Park Association Foundation 4010 Orme Palo Alto, CA 94306

James McClure Ph.D. (CD) 4957 Northdale Drive Fremont, CA 94536

Mr. Steve Williams (CD) 1734 Wel Camino, #10 Mountain View, CA 94040

Mr. Carl Honaker (CD) 2500 Cunningham Avenue San Jose, CA 95148

Mr. Ed Schlosser (CD) 304 Pacific Drive Mountain View, CA 94043 Ms. Kim Walsh (1 copy, 1 CD) TechLaw, Inc. 90 New Montgomery Street, Suite 1010 San Francisco, CA 94105

Mr. Jacques Graber (1 copy, 1 CD)
California Integrated Waste Management
Board
1001 I Street
P.O. Box 4025
Sacramento, CA 95812

Mr. Mark Littlefield (CD)
Habitat Conservation Div., Room W-2605
U.S. Fish and Wildlife Service
2800 Cottage Way
Sacramento, CA 95825

Mr. George Cook (CD) Santa Clara Valley Water District 5750 Almaden Expressway, MS BHA-2 San Jose, CA 95118

Mr. Dan Wallace (CD) 532 Tyrella, #18 Mountain View, CA 94043

Mr. Stuart McGee (CD)
Dept. of Public Safety, Fire, & Special
Operations
700 All America Way
Sunnyvale, CA 94088-3707

Ms. Jane Turnbull (CD) 64 Los Altos Square Los Altos, CA 94022



Base Realignment and Closure Program Management Office West 1455 Frazee Road, Suite 900 San Diego, California 92108

FINAL SITE 1 LANDFILL 2004 ANNUAL REPORT Revision 0 December 2, 2005

FORMER NAVAL AIR STATION MOFFETT FIELD MOFFETT FIELD, CALIFORNIA

Base Realignment and Closure Program Management Office West 1455 Frazee Road, Suite 900 San Diego, California 92108

CONTRACT No. N68711-98-D-5713 CTO No. 0086

FINAL SITE 1 LANDFILL 2004 ANNUAL REPORT Revision 0 December 2, 2005

FORMER NAVAL AIR STATION MOFFETT FIELD MOFFETT FIELD, CALIFORNIA

DCN: FWSD-RAC-06-0125



1230 Columbia Street, Suite 500 San Diego, CA 92101

Signature on File
Gordon Jamieson
Project Manager

Signature on File
Dennis Goldman, Ph.D., PG #4509

Pennis Goldman, Ph.D., PG #450 Consulting Hydrogeologist

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ABBREVIATIONS AND ACRONYMS

4,4 - DDD 4,4 - dichlorodiphenyldichloroethane

μg/L micrograms per liter

ASTM American Society for Testing and Materials

BeP bi(2-ethylhexyl)phthalate

bgs below ground surface
BHC benzene hexachloride

CCL calculated concentration limit

COC constituent of concern

DDD dichlorodiphenyldichloroethane
DDE dichlorodiphenyldichloroethane
DDT dichlorodiphenyltrichloroethane

DEH Santa Clara County Department of Environmental Health

DUP duplicate sample

EPA United States Environmental Protection Agency

ft feet

ft/ft feet per feet

FWENC Foster Wheeler Environmental Corporation

GS ground surface

GV gas vent

IRP Installation Restoration Program

IT International Technology Corporation

J estimated value

LGMW landfill gas monitoring well

MDL method detection limit mg/L milligrams per liter

msl mean sea level

NA not available

NAD North American Datum

NAS Naval Air Station

NASA National Aeronautics and Space Administration

ABBREVIATIONS AND ACRONYMS

(Continued)

NGVD National Geodetic Vertical Datum

NM not measured
OU1 Operable Unit 1

PCB polychlorinated biphenyl

ROD Record of Decision

SQL sample quantitation limit

SVOC semivolatile organic compound

TtEMI Tetra Tech EM, Inc.

ToC top of casing

TtFW Tetra Tech FW, Inc.

U analyte not detected above method reporting limit

UJ analyte not detected above estimated reporting limit

VOC volatile organic compound

EXECUTIVE SUMMARY

This document summarizes the 2004 monitoring and maintenance activities conducted at the Site 1 Landfill and presents the results of evaluating the post-closure groundwater monitoring data collected at the Site 1 Landfill in 2004. The content of this report meets the requirements of the Record of Decision for Operable Unit 1 and the California Code of Regulations, Title 27, Subchapter 3. The Site 1 Landfill is located at the northern end of the former Naval Air Station Moffett Field, located near Mountain View, California.

Depth to groundwater measurements, groundwater sampling, and methane monitoring were conducted at the Site 1 Landfill in March, May, and November 2004. Groundwater samples were collected from nine monitoring wells, as well as from collection trench well W1-22. Collection trench well W1-23 could not be sampled due to insufficient water. Volatile organic compounds, pesticides, polychlorinated biphenyls (PCBs), and metals, including mercury, were analyzed during each sampling event. In May and November 2004, semivolatile organic compounds (SVOCs) also were analyzed.

SVOCs and mercury were analyzed in supplemental groundwater sampling events in July, August, September, and December 2004 because SVOCs and mercury were not analyzed historically at Site 1. SVOCs and mercury were not detected in these sampling events. Water level measurements also were taken during these supplemental sampling events.

Depth to groundwater measurements were collected from Site 1 Landfill monitoring wells, piezometers, and collection trench wells on March 22, May 24, July 6, August 18, September 27, November 8, and December 13, 2004. The groundwater elevations were similar to previous years. The groundwater flows from north to south at the Site 1 Landfill. The water levels in monitoring well pairs show upward potential. Most monitoring wells had seasonal high water levels in March 2004 and seasonal low water levels in August 2004. The seasonal water level fluctuation was on the order of 0.5 feet.

Analytical results of 2004 groundwater sampling at Site 1 were evaluated in accordance with the procedures provided in the *Final Technical Memorandum*, *Site 1 Groundwater Evaluation Process* (Tech Memo) issued in April 2004. The Tech Memo provides calculated concentration limits (CCLs) that were developed based on ecological screening criteria and site-specific attenuation factors for the groundwater. These CCLs are used as initial screening criteria in the groundwater evaluation.

During 2004, no reported pesticides or PCB concentrations were greater than the applicable CCLs. Aluminum, barium, chromium, silver, carbon disulfide, bis(2-ethylhexyl)phthalate (BeP),

and caprolactam concentrations were greater than the applicable CCL in samples from a monitoring well in at least one sampling event during 2004. In the cases of barium, chromium, silver, and carbon disulfide, exceedances occurred either from a background well or were less than historical background levels previously recorded. Therefore, there was not a release from the landfill.

In the cases of aluminum, BeP and caprolactam, there was one exceedance each, which occurred in samples from a downgradient monitoring well and each was at a concentration greater than historical background levels. In the case of aluminum, there were no detections in several subsequent sampling events conducted approximately 6 weeks apart. In the cases of BeP and caprolactam, the exceedances were only in the duplicate sample and were not detected in the regular sample collected from this well at the same time as the duplicate sample. BeP and caprolactam were not detected in several subsequent sampling events conducted approximately 6 weeks apart. BeP is often a laboratory contaminant. These exceedances are considered to be false positives and there was no release from the landfill.

As part of landfill monitoring activities, methane monitoring was conducted for 19 passive gas vent wells within the Site 1 Landfill and 4 landfill gas monitoring wells on the perimeter of the landfill. Methane monitoring was also performed at the perimeter of the site at 150-foot intervals. In general, the percentages of methane gas concentrations within the landfill were slightly lower in November 2004 than in March or May 2004 and are similar to historical concentrations. None of the perimeter wells showed concentrations of methane above the Title 27 concentration limit of 5 percent (all readings were zero percent). Methane was not detected at any of the perimeter monitoring locations in March, May, or November 2004.

A replacement well for monitoring well W1-1 was installed and developed in August 2004. Maintenance activities conducted at the Site 1 Landfill during 2004 include inspection and repair, as required, of the landfill cover, including cutting the grass and the weeds, the raptor perches, landfill gas vents and monitoring wells, groundwater monitoring wells, piezometers, collection trench wells, and stormwater runoff controls. Santa Clara County Department of Environmental Health inspected Site 1 quarterly in 2004. No problems or deficiencies were identified.

1.0 INTRODUCTION

This document summarizes the 2004 monitoring and maintenance activities conducted at the Site 1 Landfill and presents the results of evaluating the post-closure groundwater monitoring data collected at the Site 1 Landfill in 2004. The content of this report meets the requirements of the Record of Decision (ROD) for Operable Unit 1 (OU1) and the California Code of Regulations, Title 27, Subchapter 3. The Site 1 Landfill is located at the northern end of the former Naval Air Station Moffett Field (Moffett), located near Mountain View, California (Figure 1-1 and Figure 1-2). This report was prepared on behalf of the Base Realignment and Closure Program Management Office West. This work was conducted under Contract Task Order Number 0086, issued under Remedial Action Contract No. N68711-98-D-5713.

The purpose of this Annual Report is to present the results of groundwater monitoring and methane monitoring conducted in 2004 for the detection monitoring program at the Site 1 Landfill. It also includes a description of maintenance conducted at the Site 1 Landfill during 2004. Appendices A through F include field sampling data, analytical data, statistical evaluation, analytical data validation packages, groundwater hydrographs, groundwater monitoring point data graphs, and methane monitoring data graphs.

1.1 SITE LOCATION

Moffett is located near the southern edge of the San Francisco Bay in Santa Clara County, California (see Figure 1-1). Moffett is bounded by saltwater evaporation ponds to the north, Stevens Creek to the west, U.S. Highway 101 to the south, and Lockheed Martin to the east (see Figure 1-2).

The Site 1 Landfill is located in the northernmost portion of Moffett and encompasses approximately 12 acres. The Site 1 Landfill (historically referred to as the Runway Landfill) lies at the north end of the runways between North Perimeter Road, the salt evaporation ponds, and the Stormwater Retention Pond.

1.2 2004 MONITORING AND MAINTENANCE ACTIVITIES

Monitoring activities conducted in 2004 at Site 1 included depth to groundwater measurements, groundwater sampling, and methane monitoring. Groundwater monitoring at Site 1 was conducted during 2004 in accordance with the Site 1 Landfill Final Closure Plan and Post-Closure Maintenance Plan (Tetra Tech EM, Inc. [TtEMI], 1998), the Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) Sampling and Analysis Plan (International Technology Corporation [IT], 2000), the Final Sampling and Analysis Plan Addendum for Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) (Foster Wheeler Environmental Corporation [FWENC], 2001a), and the Final Site-Specific Contractor Quality

Control Plan for Sites 1 and 2 Groundwater Monitoring and Maintenance (FWENC, 2001b). The groundwater evaluation process was revised between the March and May 2004 sampling events, in accordance with the *Technical Memorandum, Site 1 Groundwater Evaluation Process* (Tech Memo) (Tetra Tech FW, Inc. [TtFW], 2004), which was finalized in April 2004.

As approved by the regulatory agencies, the sampling frequency and some analyses were modified in 2004 in accordance with the Tech Memo. Quarterly sampling was continued through March 2004. The Tech Memo was issued in April 2004, which states that semiannual sampling will be conducted in May and November 2004. Mercury was added to the groundwater analytes sampled in March 2004, and mercury and semivolatile organic compounds (SVOCs) were added to the analytes sampled in May and November 2004.

Methane monitoring was conducted in accordance with Section 6 of the Site 1 Landfill Final Closure Plan and Post-Closure Maintenance Plan (TtEMI, 1998), Section 5.2 of the Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) Sampling and Analysis Plan (IT, 2000), and the Final Sampling and Analysis Plan Addendum for Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) (FWENC, 2001a).

Depth to groundwater measurements, groundwater sampling, and methane monitoring were conducted at the Site 1 Landfill in March, May, and November 2004. Groundwater samples were collected from nine monitoring wells, as well as from collection trench well W1-22. Collection trench well W1-23 could not be sampled due to insufficient water. Volatile organic compounds, pesticides, polychlorinated biphenyls (PCBs), and metals, including mercury, were analyzed during each sampling event. In May and November 2004, SVOCs also were analyzed.

SVOCs and mercury were analyzed in supplemental groundwater sampling events in July, August, September, and December 2004 because SVOCs and mercury were not analyzed historically at Site 1. Water level measurements also were taken during these supplemental sampling events.

Monitoring well W1-1 was replaced in August 2004 due to corrosion of the well riser and outer protective casing. Installation of monitoring well W1-1R was completed on August 13, 2004. Table 1-1 provides well construction information for all Site 1 monitoring wells. Monitoring well W1-1R was constructed using techniques that conform to American Society for Testing and Materials (ASTM) D5092-04. Well W1-1R was located as close as possible to the original well and screened in approximately the same interval. Development of well W1-1R was completed on August 16, 2004. W1-1R was developed using a combination of surging and pumping that conforms to ASTM D5521-94. The boring log, well completion report, survey report, well development log, and well construction application are included in Appendix G.

Maintenance activities conducted at Site 1 during 2004 include inspection and repair, as necessary, of the landfill cap, stormwater runoff and control measures, raptor perches, landfill

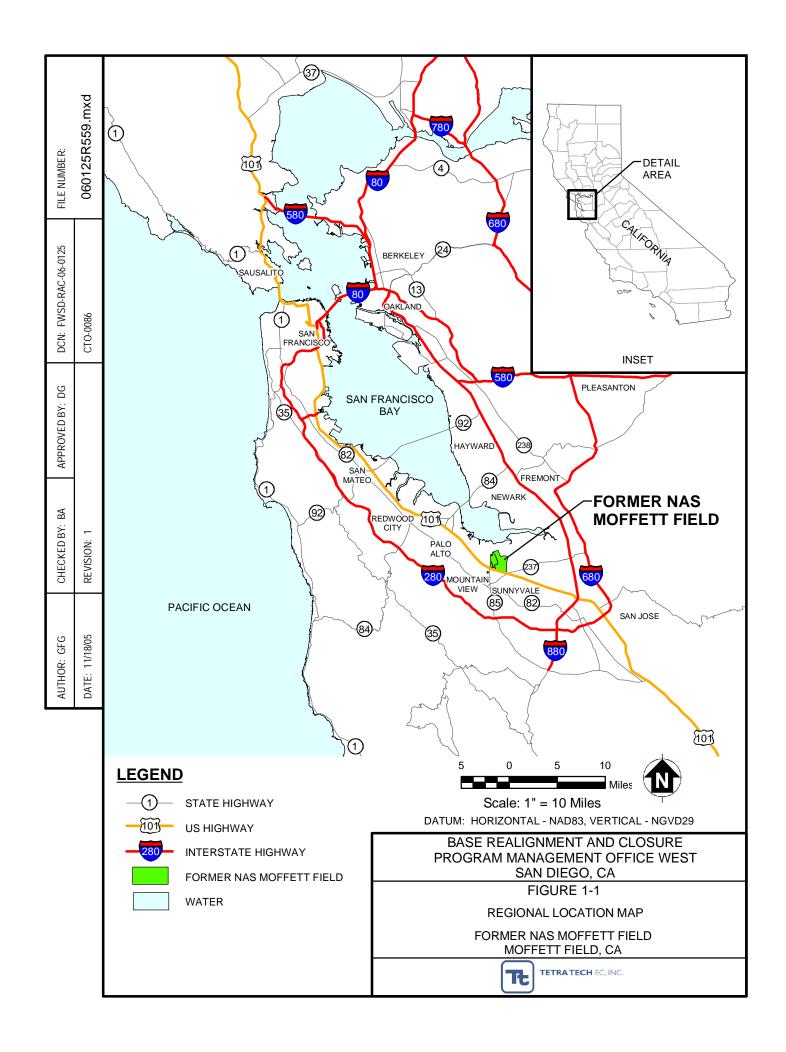


TABLE 1-1

WELL CONSTRUCTION INFORMATION FORMER NAS MOFFETT FIELD

Location	Northing (feet)	Easting (feet)	Diameter (inches)	ToC Elevation (feet) ¹	GS Elevations (feet) ¹	Total Well Depth (feet bgs)	Depth of Screen Interval (feet bgs)
$W1-1^2$	342250.8	1549860.0	2	2.16	2.11	25.0	15.0 - 25.0
$W1-1R^2$	342251.8	1549854.4	4	4.83	2.21	25.5	14.3 - 24.3
W1-5	343385.2	1549579.0	4	3.02	1.91	21.5	14.5 - 19.5
W1-6	342228.3	1549584.0	4	-0.56	0.51	34.0	15.0 - 30.0
W1-7	342492.2	1548951.0	4	0.24	0.01	75.0	40.0 - 70.0
W1-8	342968.0	1549752.0	4	2.95	1.11	25.0	13.0 - 18.0
W1-12R	342969.3	1549342.1	4	0.17	-3.19	22.0	11.7 - 21.7
W1-14	342421.0	1549035.0	2	2.46	-0.69	14.1	4.1 - 14.1
W1-15	342381.0	1549545.0	2	2.60	-0.29	14.4	4.4 - 14.4
W1-16	342492.0	1549840.0	2	3.82	1.31	15.4	5.4 - 15.4
W1-19	342300.6	1549180.2	2	1.98	-0.39	19.0	14.0 - 19.0
W1-20	342362.1	1549457.3	2	2.72	-0.09	19.0	14.0 - 19.0
$W1-22^3$	343087.7	1549412.9	8	1.12	2.11	7.0	2.5 - 7.0
$W1-23^3$	342804.1	1549148.2	8	0.83	2.21	7.0	2.5 - 7.0
W1-24	342747.8	1549847.2	4	4.27	1.91	24.5	6.0 - 16.0
PZ1-18 ⁴	342301.3	1549184.7	2	2.25	-0.29	40.0	30.0 - 40.0
PZ1-21 ⁴	342359.0	1549452.0	2	2.28	-0.09	40.0	30.0 - 40.0

Notes:

Positions were determined using NASA Ames Research Center Control Monument ARC-32, a disc set flush in concrete, 6.5 feet north of northeast edge of pavement (Patrol Road) and 75 feet east of Perimeter Road, and 2.5 feet west of the chain-link fence.

Northings and eastings are shown in NAD27, elevations are shown in NGVD29.

Measuring point is recorded from top of well casing.

The screen interval for replacement wells W1-1R and W1-12R are similar to those of the original wells they replaced (within 1 foot of the screen interval for the original wells).

Abbreviations and Acronyms:

bgs - below ground surface

GS - ground surface

NAD - North American Datum

NAS - Naval Air Station

NASA - National Aeronautics and Space Administration

NGVD - National Geodetic Vertical Datum

ToC - top of casing

¹ ToC referenced to survey was conducted during November 2002, with the exception of W1-12R and W1-1R, which were surveyed in October 2003 and November 2004, respectively.

² W1-1 was decommissioned and recontructed as W1-1R on August 13, 2004.

³ W1-22 and W1-23 are collection trench wells and not groundwater monitoring wells.

⁴ PZ1-18 and PZ1-21 are piezometers and not groundwater monitoring wells.

gas vents, perimeter landfill gas monitoring wells, the landfill gas-venting trench and gas vents, collection trench and collection trench wells, and groundwater monitoring wells and piezometers. Site 1 inspections were conducted in January, February, May, August, and November 2004. Inspection checklists and maintenance activities are provided in Appendix H.

Santa Clara County Department of Environmental Health (DEH) also inspects the Site 1 Landfill quarterly. No problems or deficiencies were noted during DEH inspections. The DEH inspection reports are provided in Appendix H.

1.3 BASIS OF DATA EVALUATION

Remedial activities at Moffett are conducted as part of the Installation Restoration Program (IRP) established by the Department of Defense to identify, evaluate, and control the spread of contaminants from historical hazardous waste sites. The Site 1 Landfill is in OU1. The content of this report meets the requirements stated in the ROD (Navy, 1997) for OU1 and the California Code of Regulations, Title 27, Subchapter 3.

The ROD for OU1 (Navy, 1997) summarizes site characteristics and risks, describes and evaluates the remedial alternatives, identifies the selected remedy, and identifies statutory determinations (including compliance with applicable or relevant and appropriate requirements). The major elements of the selected remedy for the Site 1 Landfill are a landfill cap, landfill gasventing trench, subsurface collection trench, groundwater and methane monitoring, institutional controls, and post-closure maintenance. Remedial actions were completed in November 1998, and methane and groundwater monitoring began in 1999.

The evaluation of Site 1 groundwater analytical results presented in this report was conducted in accordance with the Tech Memo (TtFW, 2004). The Tech Memo documented the groundwater detection monitoring program, calculated concentration limits (CCLs), and described the statistical evaluation process for the Site 1 Landfill post-closure monitoring. The CCLs were developed based on ecological screening criteria and site-specific attenuation factors for the groundwater. These CCLs are used as initial screening criteria in the groundwater evaluation. If analytical results are less than the CCLs, then no additional evaluation is required, and there is no release from the landfill. If CCLs are exceeded, then additional evaluation of upgradient (background) and downgradient data is conducted to determine whether there has been a release from the landfill. Appendices A and B of this document contain the field sampling data and analytical summary and CCL evaluation tables.

1.4 REPORT ORGANIZATION

This report is divided into the following sections:

• **Section 1.0: Introduction,** presents the site location, monitoring and maintenance activities, the basis of the data evaluation, and the report organization

- Section 2.0: Groundwater Hydraulics, presents the Site 1 groundwater gradient, flow direction, and water level trends
- Section 3.0: Groundwater Sampling, summarizes the Site 1 groundwater analytical data and presents the results of the evaluation of the groundwater data
- Section 4.0: Methane Monitoring, summarizes the Site 1 methane monitoring data in the landfill gas monitoring wells, the landfill gas vents, and the perimeter gas monitoring points
- Section 5.0: Conclusions, presents the conclusions and recommendations
- Section 6.0: References, presents the references for this report
- Tables and figures are incorporated into the text
- Appendix A, contains the field sampling data sheets
- Appendix B, contains a summary of the analytical tables and the CCL tables
- Appendix C, presents the Site 1 groundwater validated analytical results
- **Appendix D**, provides hydrographs of the Site 1 groundwater monitoring wells, piezometers, and collection trench wells
- **Appendix E,** provides time-series concentration graphs of monitoring points for each constituent of concern that was detected in 2004
- **Appendix F,** provides time-series methane concentration graphs of the landfill gas monitoring wells and landfill gas vents
- Appendix G, provides documentation of the construction of monitoring well W1-1R
- **Appendix H,** provides the 2004 Santa Clara County landfill inspection reports and the general site inspection reports
- Appendix I, presents the Response to Comments

2.0 GROUNDWATER HYDRAULICS

This section describes the Site 1 hydrogeology, groundwater gradient and flow direction, and water level trends.

The stratigraphy of the Site 1 Landfill is a complex interfingering of fine-grained units representing the boundary between alluvial and estuarine environments and fluctuations of the boundary caused by changes in sea level. Lithologic logs from shallow well borings indicate that the uppermost materials (zero to 60 feet below ground surface) are comprised of silts to silty clays, which are brown to black and moderately plastic in nature. Intermittent throughout the upper 60 feet are interfingered silty sands and clayey gravels, which are medium gray to black or brown. These materials are present as lenses or stringers and are not consistent laterally or vertically throughout the site.

Most of the groundwater elevations in the Site 1 Landfill groundwater monitoring wells are below mean sea level. The vadose zone, between the saturated zone and the land surface, consists of either imported fill material or clayer soils.

Shallow subsurface soil samples within the Site 1 Landfill and surrounding the site, taken below the landfill but above the permeable lenses within the upper portion of the shallow aquifer, were tested for porosity and permeability. The results indicate that soils below the landfill and above the shallow aquifer are generally clays with hydraulic conductivity values in the 10^{-8} centimeter-per-second range.

Groundwater in the upper portion of the shallow aquifer beneath the landfill generally flows north to south (Tetra Tech FW, Inc. [TtFW], 2004). The regional groundwater flow direction is south to north toward San Francisco Bay. The southward gradient underlying the Site 1 Landfill is opposite from the regional gradient because of active pumping of the Moffett storm drainage system. Pumping occurs at Building 191, located south of the Site 1 Landfill (see Figure 1-2). Building 191 began operating in the early 1950s. It consists of a subsurface concrete-lined vault, equipped with a passive pump, and receives water from nearby ditches and a French drain system underneath the runways (Tetra Tech EM, Inc., 2000). The pump station influences local groundwater gradients and reverses the local natural groundwater flow direction because the drainage system that feeds the pump station is below the water table in some areas.

Three water bodies are proximal to the Site 1 Landfill: the man-made ephemeral Stormwater Retention Pond to the north, Former Jagel Slough to the southeast, and a saltwater evaporation pond to the east. It appears that low-permeability barriers exist between the water bodies and the Site 1 Landfill, limiting subsurface water movement (Navy, 1997). As a result, head differences are maintained between each water body (International Technology Corporation, 1993). Potential

for flow from the landfill to the other bodies exists, but these restrictive barriers limit actual flow. Low-hydraulic conductivity, high-organic contents associated with the clays, and low-contaminant source concentrations combine to restrict flow and limit potential contaminant migration (Navy, 1997).

2.1 GROUNDWATER GRADIENT AND FLOW DIRECTION

Field activities, conducted at the Site 1 Landfill in 2004, included seven water level gauging events at monitoring wells, piezometers, and collection trench wells prior to each sampling event (Table 2-1). This section describes the collection of 2004 water level measurements and summarizes groundwater flow direction beneath the Site 1 Landfill. Figure 2-1 shows the locations for Site 1 water level measurements.

Measurements of depth to groundwater were made using an electronic measuring tape with markings every hundredth of a foot. All water levels were measured within a 24-hour period. Measurements were subtracted from surveyed measuring point elevations to calculate the groundwater level elevations.

Depth to groundwater measurements were collected from 12 monitoring wells, 2 piezometers, and 2 collection trench wells at the Site 1 Landfill on:

- March 22, 2004
- May 24, 2004
- August 18, 2004
- September 27, 2004
- November 8, 2004
- December 13, 2004

Depth to groundwater measurements were also collected on July 6, 2004. However, only the wells that were sampled were gauged for depth to groundwater measurements.

Groundwater elevations for all Site 1 Landfill groundwater measurements were below sea level for 2004. The potentiometric surfaces of the upper portion of the shallow aquifer, shown on Figure 2-2 through Figure 2-8, were based on groundwater elevations in monitoring wells of similar construction and screened in the upper portion of the shallow aquifer. For example, PZ1-18 and PZ1-21 and wells W1-6 and W1-7 were not included because they are screened at greater depths than the other wells and are not considered representative of the groundwater elevations in the upper portion of the shallow aquifer. In addition, collection trench wells W1-22 and W1-23 were not included, as they are screened within the collection trench north of the landfill and are not considered representative of groundwater elevations.

TABLE 2-1

2004 GROUNDWATER ELEVATIONS FORMER NAS MOFFETT FIELD

	ToC	March 22, 2004	March 22, 2004	May 24, 2004	May 24, 2004	July 6, 2004	July 6, 2004	August 18, 2004	August 18, 2004
Location	Elevation	Depth to Water ¹	Water Elevation						
	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)
$W1-1^2$	2.16	4.87	-2.71	3.22	-1.06	5.48	-3.32	NA	NA
$W1-1R^2$	4.83	NA	NA	NA	NA	NA	NA	8.41	-3.58
W1-5	3.02	5.00	-1.98	5.29	-2.27	5.50	-2.48	5.83	-2.81
W1-6	-0.56	1.72	-2.28	2.36	-2.92	NM	NM	2.61	-3.17
W1-7	0.24	2.62	-2.38	2.99	-2.75	NM	NM	3.49	-3.25
W1-8	2.95	5.11	-2.16	5.38	-2.43	5.52	-2.57	5.89	-2.94
W1-12R	0.17	2.38	-2.21	2.40	-2.23	2.93	-2.76	3.16	-2.99
W1-14	2.46	5.05	-2.59	5.46	-3.00	5.75	-3.29	5.95	-3.49
W1-15	2.60	5.16	-2.56	4.55	-1.95	5.80	-3.20	6.09	-3.49
W1-16	3.82	6.37	-2.55	9.45	-5.63	6.90	-3.08	7.75	-3.93
W1-19	1.98	5.63	-3.65	5.03	-3.05	5.33	-3.35	4.55	-2.57
W1-20	2.72	5.37	-2.65	5.76	-3.04	NM	NM	6.22	-3.50
$W1-22^3$	1.12	3.45	-2.33	3.52	-2.40	3.62	-2.50	3.73	-2.61
$W1-23^3$	0.83	4.64	-3.81	5.35	-4.52	5.47	-4.64	5.30	-4.47
W1-24	4.27	6.65	-2.38	6.95	-2.68	7.20	-2.93	7.50	-3.23
PZ1-18 ⁴	2.25	4.77	-2.52	5.14	-2.89	NM	NM	5.30	-3.05
PZ1-21 ⁴	2.28	4.92	-2.64	5.28	-3.00	NM	NM	5.80	-3.52

TABLE 2-1

2004 GROUNDWATER ELEVATIONS FORMER NAS MOFFETT FIELD

	ToC	September 27, 2004	September 27, 2004	November 8, 2004	November 8, 2004	December 13, 2004	December 13, 2004
Location	Elevation	Depth to Water ¹	Water Elevation	Depth to Water ¹	Water Elevation	Depth to Water ¹	Water Elevation
	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)	(ft)	(ft msl)
$W1-1^2$	2.16	NA	NA	NA	NA	NA	NA
$W1-1R^2$	4.83	8.23	-3.40	8.30	-3.47	8.05	-3.22
W1-5	3.02	5.54	-2.52	5.82	-2.80	5.50	-2.48
W1-6	-0.56	2.70	-3.26	2.61	-3.17	2.50	-3.06
W1-7	0.24	3.32	-3.08	3.26	-3.02	3.15	-2.91
W1-8	2.95	5.61	-2.66	5.90	-2.95	5.55	-2.60
W1-12R	0.17	2.93	-2.76	3.09	-2.92	2.75	-2.58
W1-14	2.46	5.84	-3.38	5.86	-3.40	5.55	-3.09
W1-15	2.60	5.93	-3.33	6.38	-3.78	5.75	-3.15
W1-16	3.82	7.09	-3.27	7.75	-3.93	7.10	-3.28
W1-19	1.98	5.47	-3.49	5.40	-3.42	5.15	-3.17
W1-20	2.72	6.11	-3.39	6.02	-3.30	5.93	-3.21
$W1-22^3$	1.12	3.79	-2.67	3.75	-2.63	3.80	-2.68
$W1-23^3$	0.83	5.34	-4.51	5.35	-4.52	5.75	-4.92
W1-24	4.27	7.25	-2.98	7.83	-3.56	7.10	-2.83
PZ1-18 ⁴	2.25	5.38	-3.13	5.27	-3.02	5.20	-2.95
PZ1-21 ⁴	2.28	5.65	-3.37	5.60	-3.32	5.41	-3.13

Note:

Abbreviations and Acronyms:

ft - feet

msl – mean sea level

NA – not available

NAS – Naval Air Station

NM – not measured

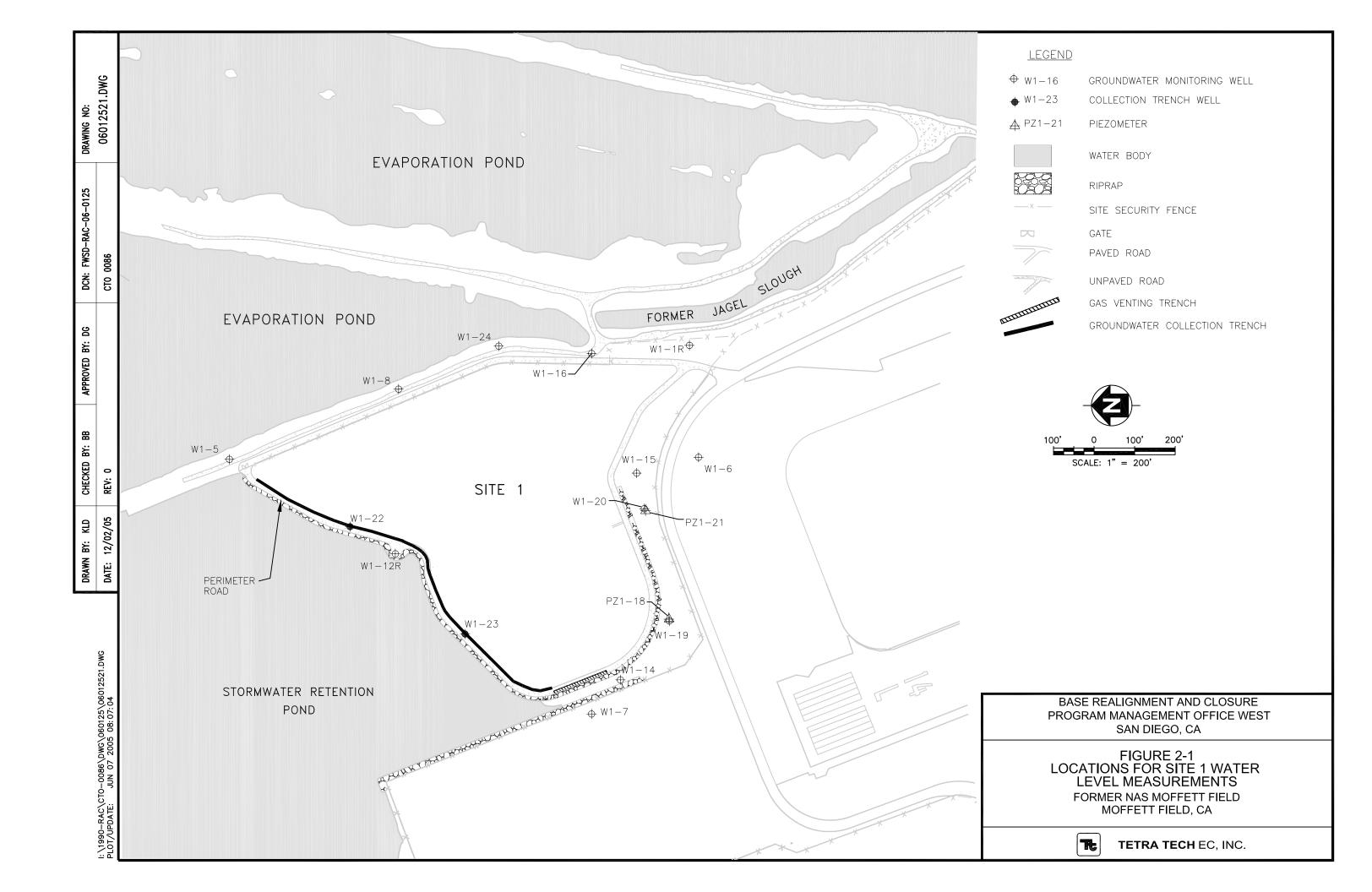
ToC – top of casing

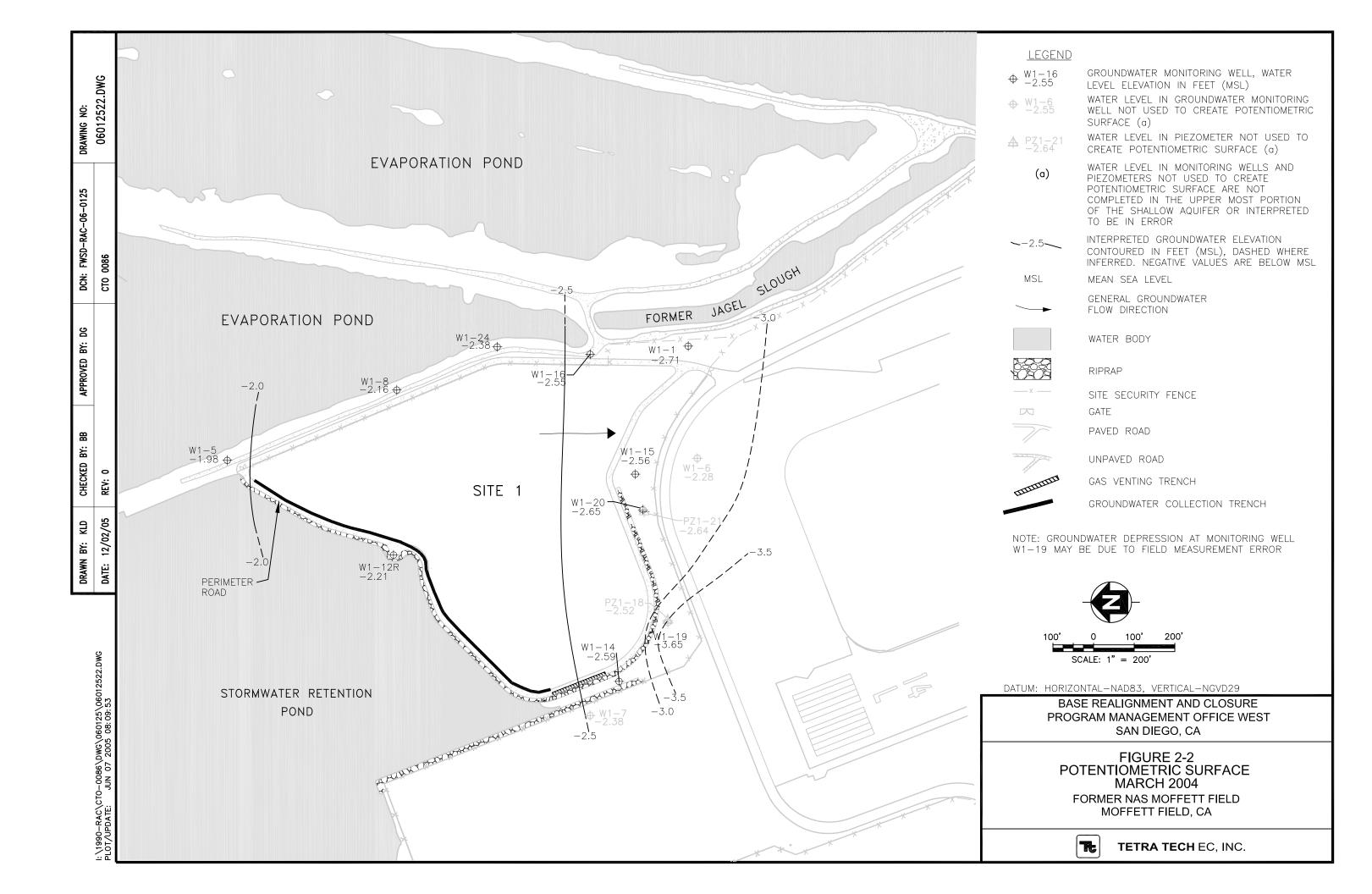
¹ - Depth to water may vary from field sampling data forms (Appendix A). Data were collected on separate dates.

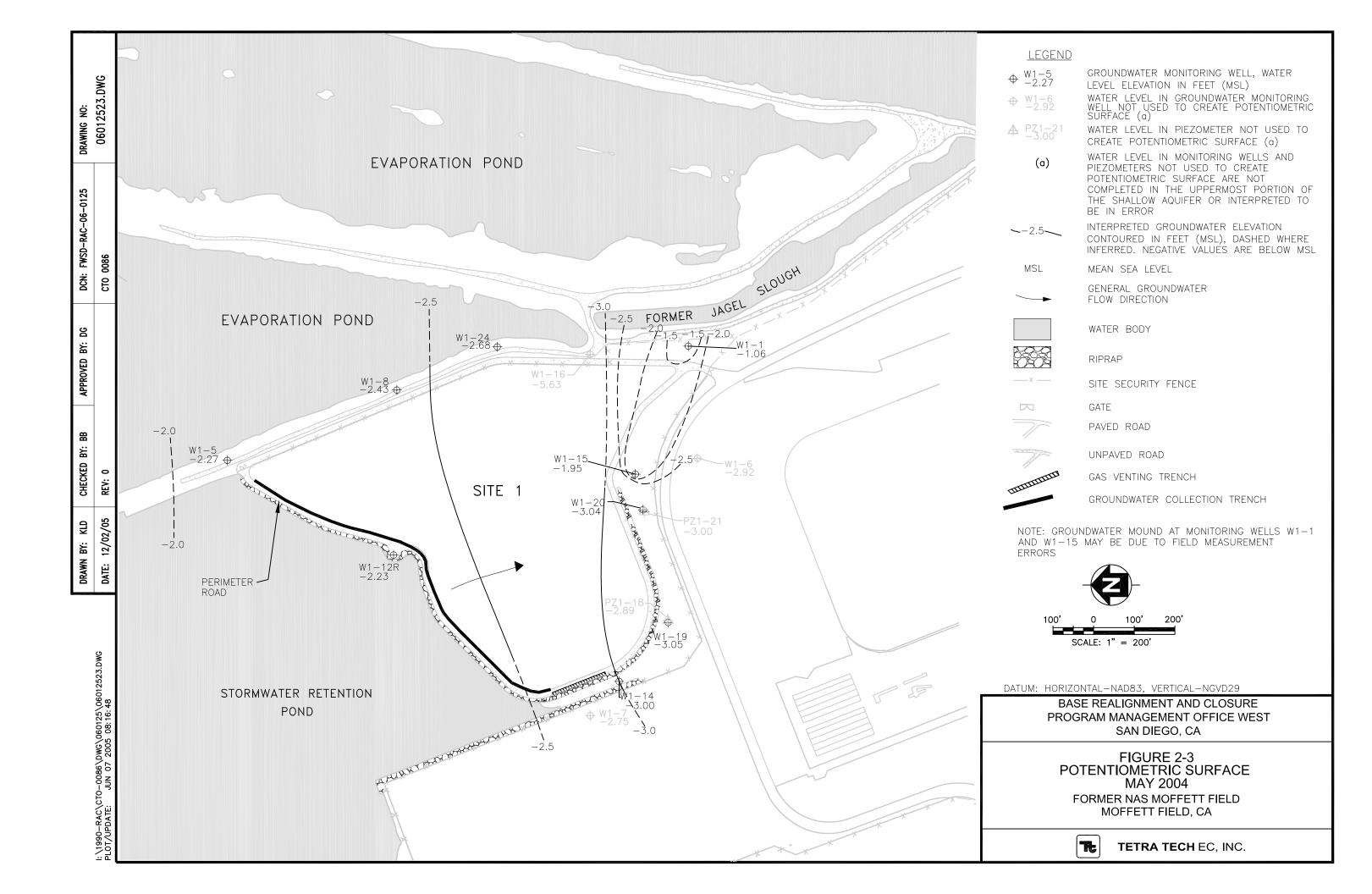
² - W1-1 was decommissioned and reconstructed as W1-1R on August 13, 2004.

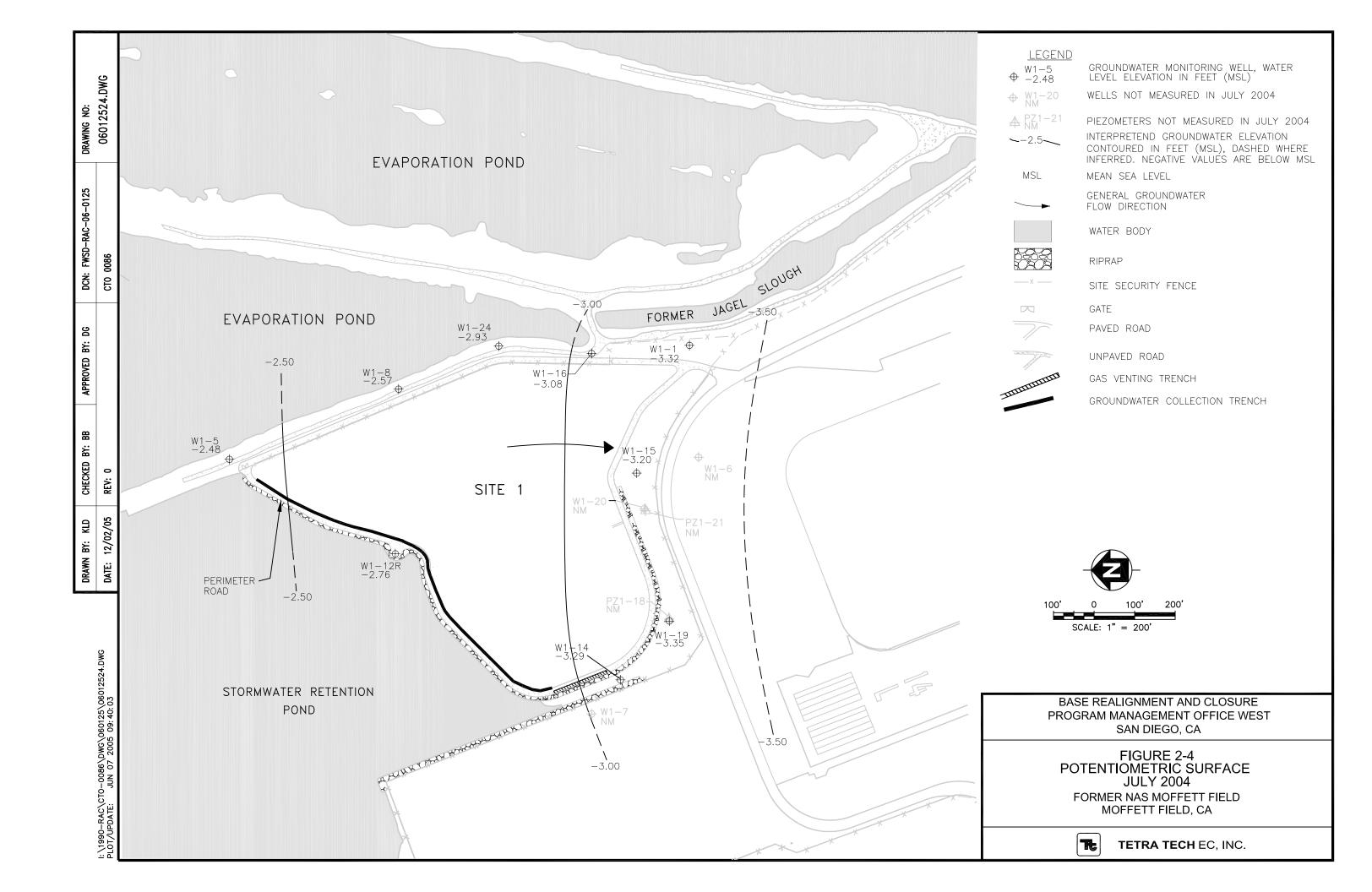
³ - W1-22 and W1-23 are collection trench wells, not groundwater monitoring wells.

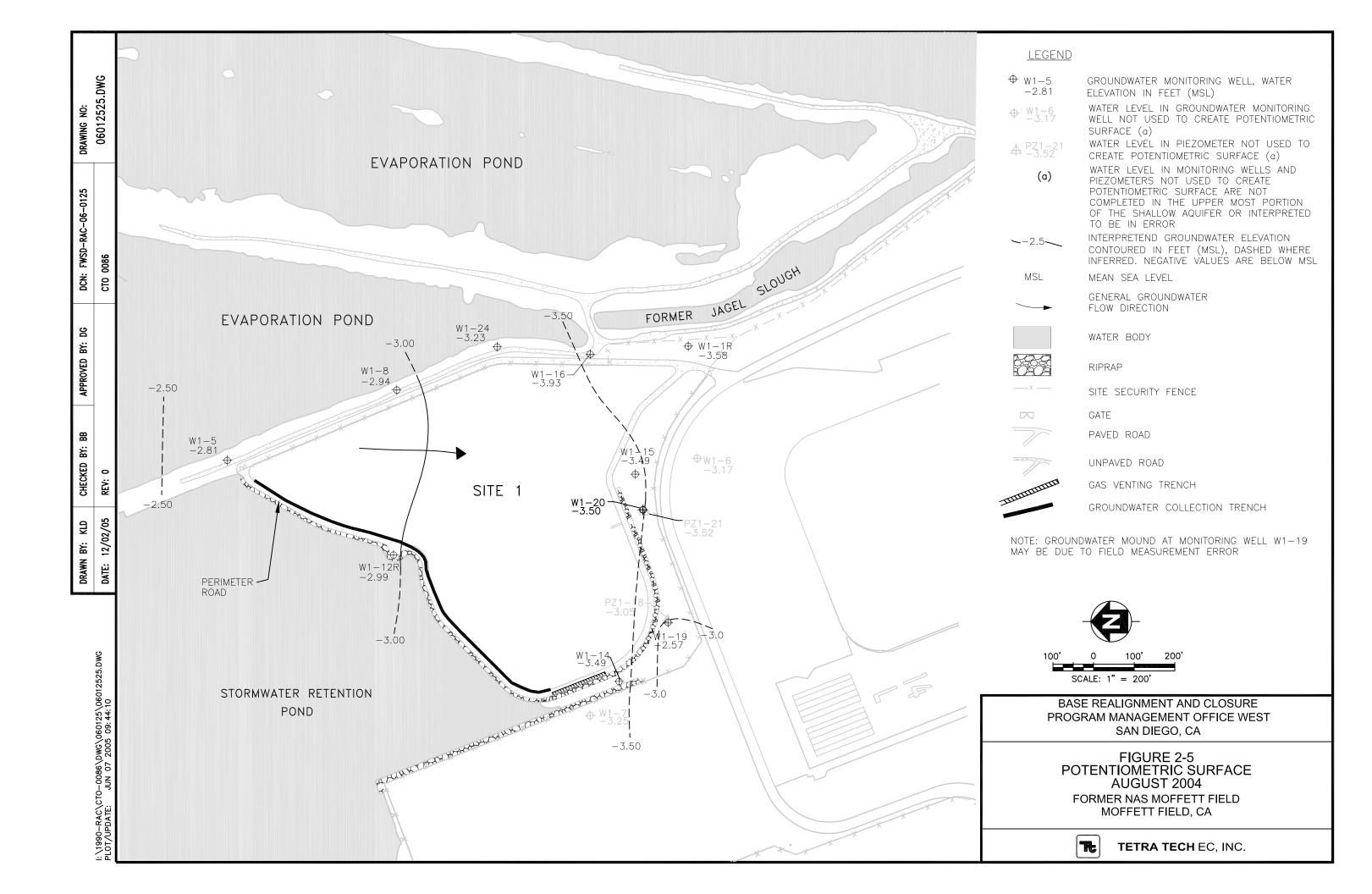
⁴ - PZ1-18 and PZ1-21 are piezometers, not groundwater monitoring wells.

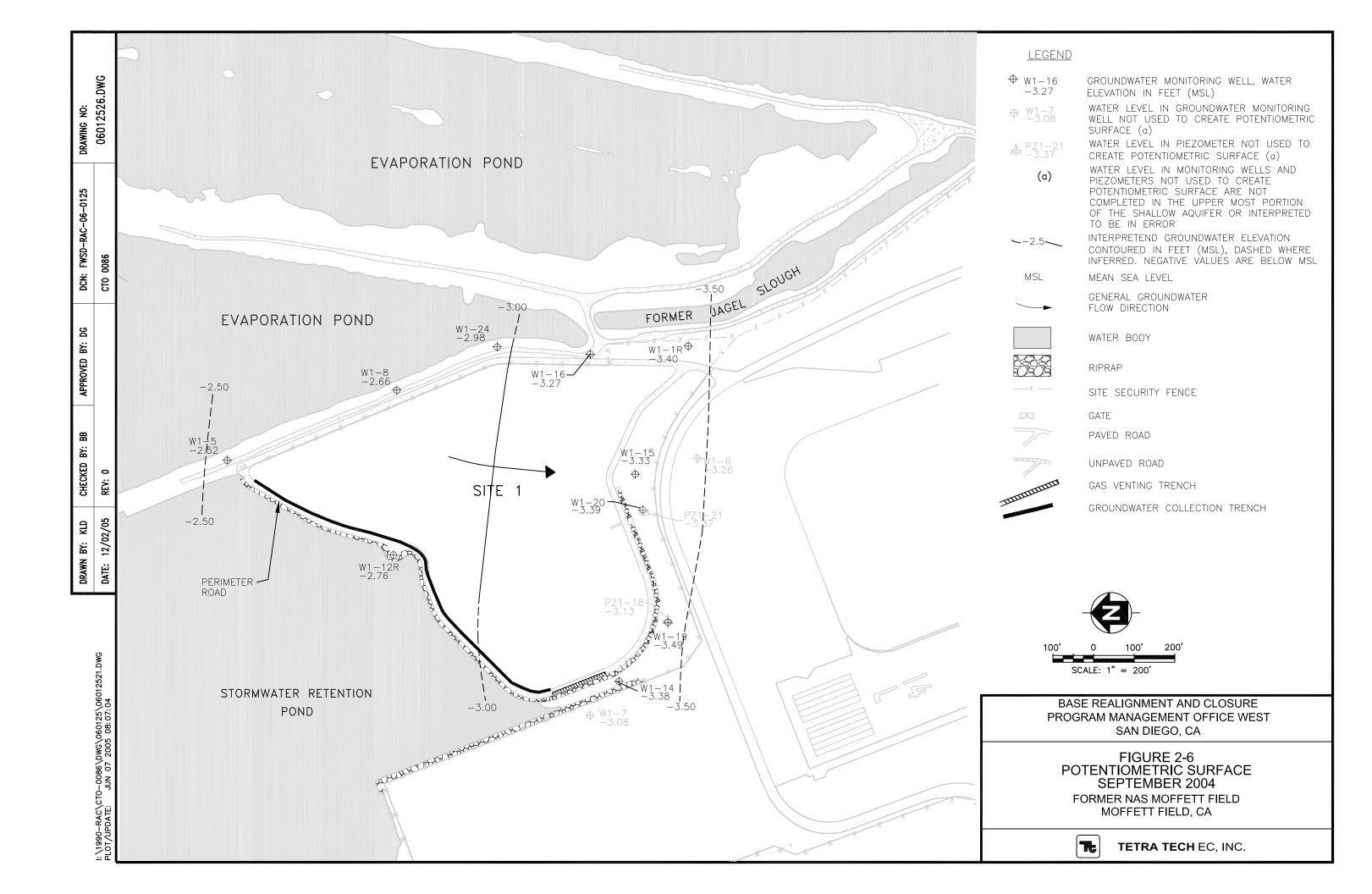


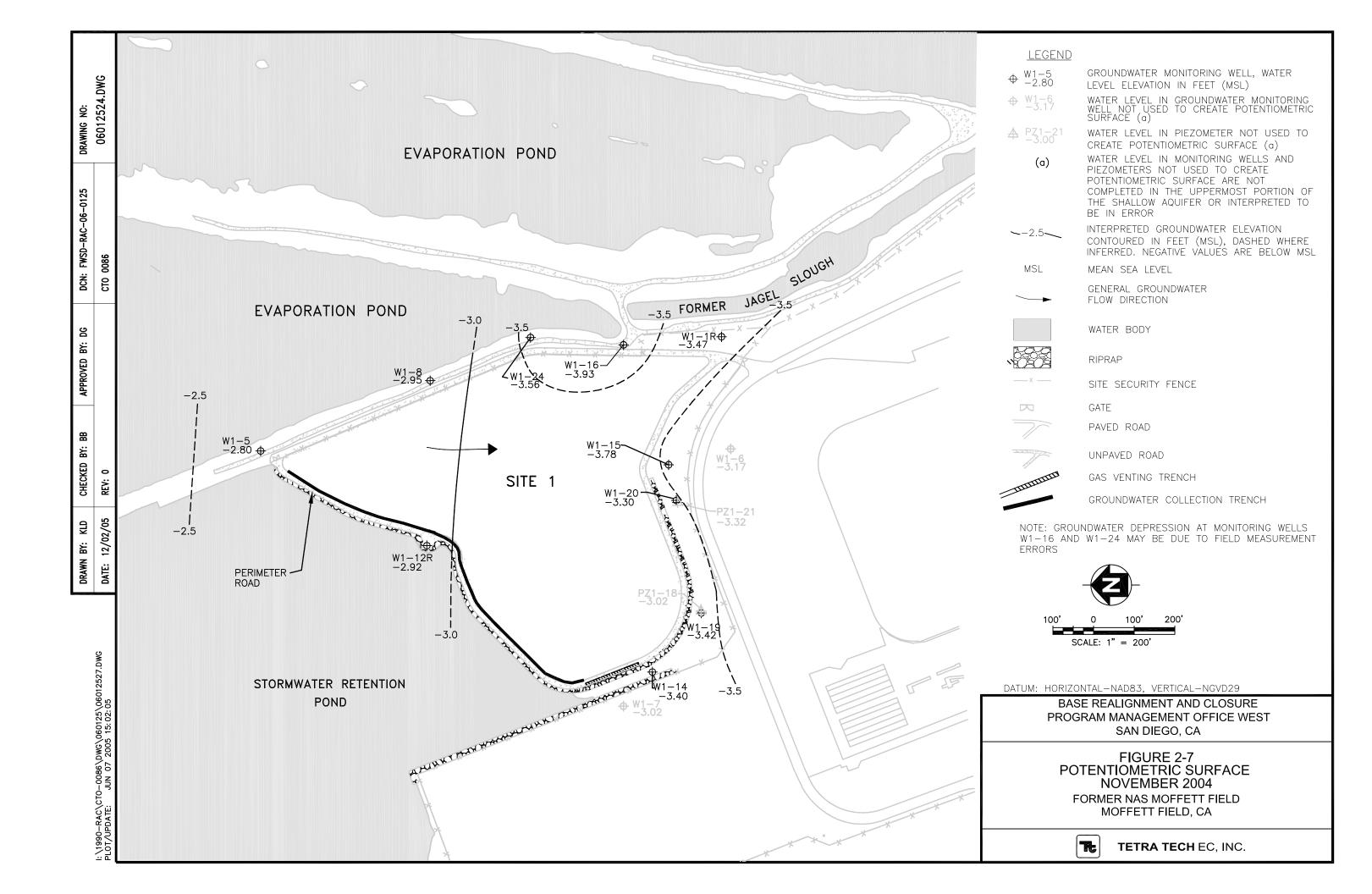


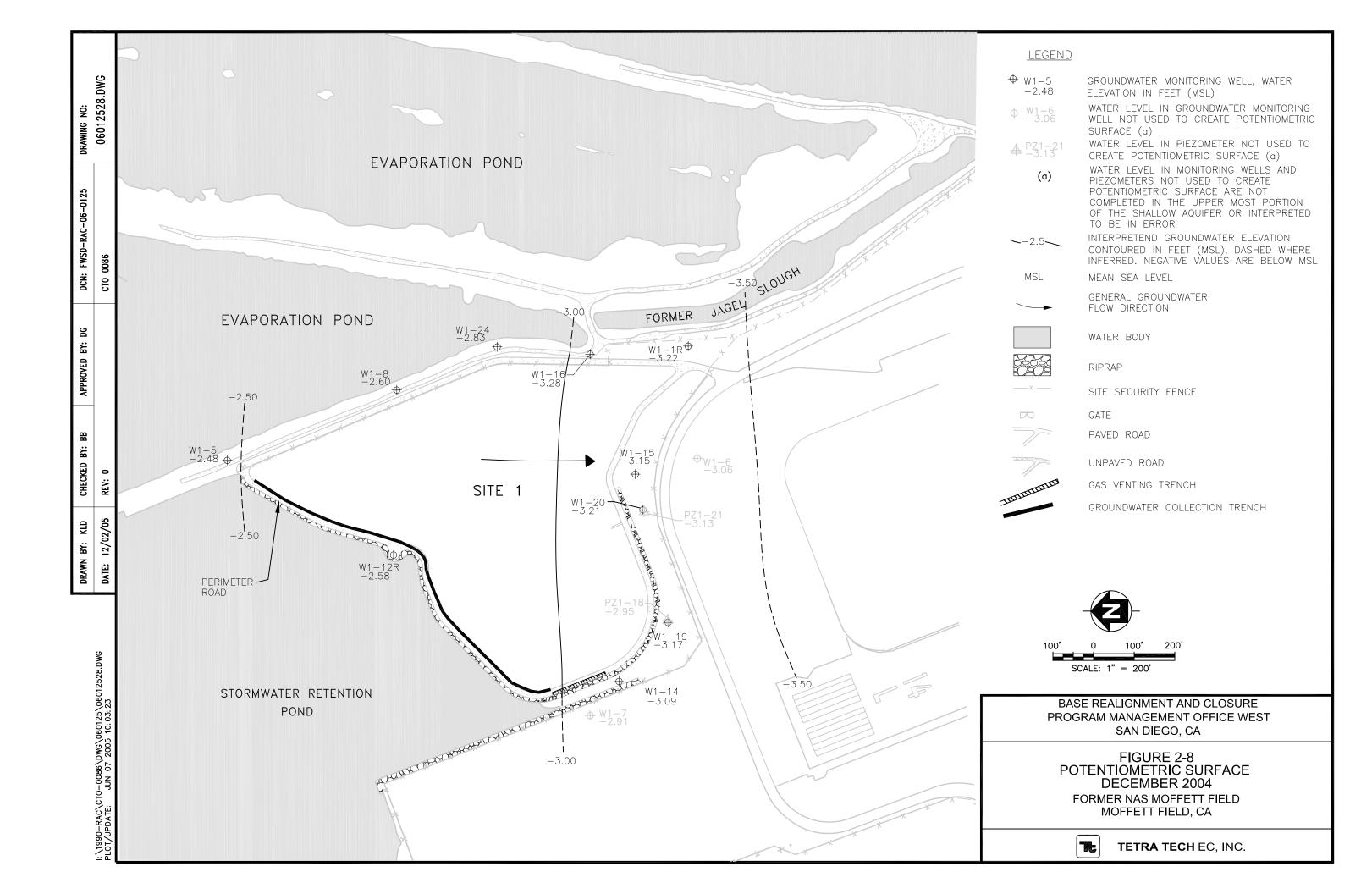












The following monitoring wells were not included in the evaluation of the potentiometric surface:

- May 2004 –W1-16
- July 2004 W1-20 inadvertently not measured

In May 2004, it appears that the water level measurement in well W1-16 was recorded in error.

In general, the groundwater elevations are similar to previous years. Generally, the groundwater flows from north to south at the Site 1 Landfill. The gradient from north to south (W1-5 to W1-20) is approximately:

- 0.0007 feet per foot (ft/ft) in March 2004
- 0.0008 ft/ft in May 2004
- 0.0008 ft/ft in July 2004 (W1-5 to W1-15)
- 0.0007 ft/ft in August 2004
- 0.0008 ft/ft in September 2004
- 0.0005 ft/ft in November 2004
- 0.0008 ft/ft in December 2004

The water levels in monitoring well pair W1-19/PZ1-18 (see Figure D-17 in Appendix D) show continuous upward potential (the water levels in PZ1-18 are higher than in W1-19, and PZ1-18 is completed slightly deeper in the A aquifer than W1-19) for all but the August 18, 2004, measurement since 1999. However, the water level in monitoring well W1-19 on August 18, 2004, is not consistent with the long-term trend. The water levels in monitoring well pair W1-20/PZ1-21 (see Figure D-18 in Appendix D) show a slight upward potential (the water levels in PZ1-21 are higher than in W1-20, and PZ1-21 is completed slightly deeper in the A aquifer than W1-20). Water levels in the W1-20/PZ-21 pair have been generally within a couple hundredths of a foot of each other since 1999.

2.2 WATER LEVEL TRENDS

Appendix D contains groundwater hydrographs for the 12 monitoring wells and 2 piezometers at the Site 1 Landfill. Some monitoring wells and piezometers show a slight upward (W1-1/1R, W1-12/12R, W1-19, W1-20, PZ1-18, and PZ1-21) or slight downward (W1-16, and W1-24) long-term water level trend, while the remainder of the monitoring wells showed a flat long-term trend. All monitoring wells and piezometers show a seasonal water level variation, with a highwater level elevation near the end of the rainy season (January to March) and a low-water level elevation near the end of the dry season (August to October). Seasonal water level fluctuations generally range on the order of 0.3 to 0.5 feet.

The following water level trends were observed in 2004:

- Most monitoring wells had seasonal high-water levels in March.
- Most monitoring wells had seasonal low-water levels in August.

The seasonal water level fluctuation was on the order of 0.5 feet.

3.0 GROUNDWATER SAMPLING

Groundwater monitoring at Site 1 was conducted during 2004 in accordance with the Site 1 Landfill Final Closure Plan and Post-Closure Maintenance Plan (Tetra Tech EM, Inc. [TtEMI], 1998), the Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) Sampling and Analysis Plan (International Technology Corporation [IT], 2000), the Final Sampling and Analysis Plan Addendum for Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2)(Foster Wheeler Environmental Corporation [FWENC], 2001a), and the Final Site-Specific Contractor Quality Control Plan for Sites 1 and 2 Groundwater Monitoring and Maintenance (FWENC, 2001b).

In response to a request from the regulatory agencies, the sampling frequency and some analyses were modified in 2004. Sampling was conducted in March, May, and November 2004 instead of quarterly. Mercury was added to the groundwater analytes list in March 2004, and mercury and semivolatile organic compounds (SVOCs) were added to the analytes list in May and November 2004. SVOCs and mercury were analyzed in supplemental groundwater sampling events in July, August, September, and December 2004 because SVOCs and mercury were not analyzed historically at Site 1. Groundwater samples were collected from nine monitoring wells, as well as from collection trench well W1-22. Collection trench well W1-23 could not be sampled due to insufficient water. Locations for Site 1 groundwater and collection trench sampling are shown in Figure 3-1. Field sampling data sheets for the March, May, and November 2004 groundwater sampling events are included in Appendix A.

Supplemental groundwater sampling was accomplished in July, August, September, and December 2004. The supplemental groundwater sampling was conducted to develop the database required for the *Final Technical Memorandum*, *Site 1 Groundwater Evaluation Process* (Tech Memo) (Tetra Tech FW, Inc. [TtFW], 2004) evaluation of dissolved mercury and the SVOCs. Field sampling data sheets for the supplemental groundwater sampling events are included in Appendix A.

3.1 ANALYTICAL RESULTS

Appendix B of this document presents the analytical summary tables for regular and supplemental samples collected in 2004. Appendix C of this document presents the validated analytical data. Analytical testing for 2004 changed after the approval of the Tech Memo (TtFW, 2004), as described in the following section.

3.1.1 Analytical Testing

Groundwater samples collected in March 2004 at the Site 1 Landfill were analyzed for the following:

- Volatile organic compounds (VOCs), using United States Environmental Protection Agency (EPA) Method 8260B
- Pesticides and polychlorinated biphenyls (PCBs), using EPA Methods 8081A/8082
- Total and dissolved metals, including mercury, using EPA Method 6010B
- Nitrate/nitrite as nitrogen, using EPA Method 353.1
- Total organic carbon, using EPA Method 415.1

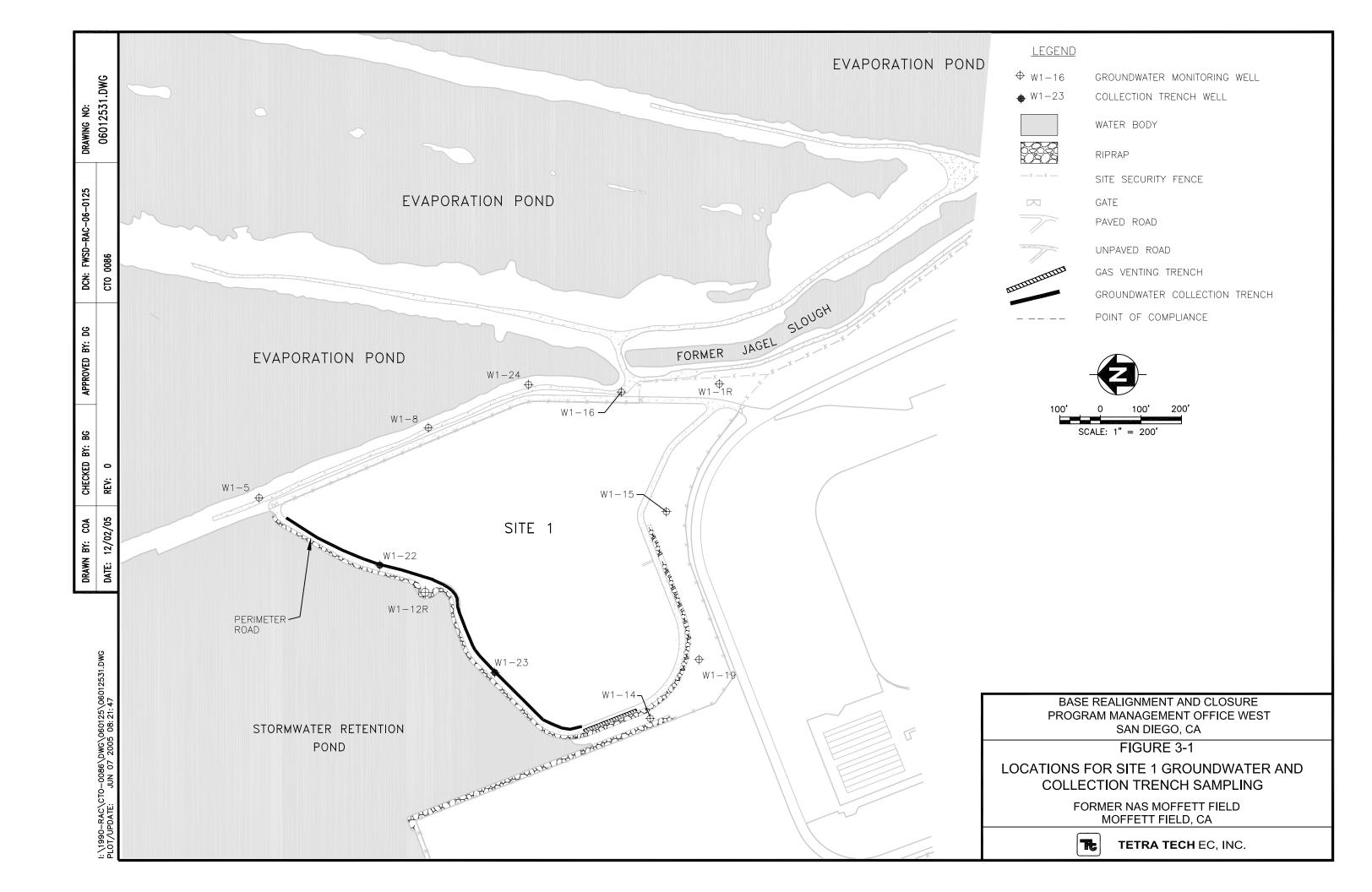
Groundwater samples collected in May and November 2004 at the Site 1 Landfill were analyzed for the following:

- VOCs using EPA Method 8260B
- Pesticides and PCBs using EPA Methods 8081A/8082
- Dissolved metals using EPA Method 200.8, except for dissolved mercury, which was analyzed by EPA Method 7470A
- SVOCs using EPA Method 8270C

Supplemental groundwater samples collected in July, August, September, and December 2004, at the Site 1 Landfill were analyzed for the following:

- Dissolved mercury using EPA Method 7470A
- SVOCs using EPA Method 8270C

Twelve samples, including two duplicate samples, were collected from nine groundwater monitoring wells and one collection trench well at the Site 1 Landfill for each sampling event. The analytical results from the collection trench well W1-22 are not considered representative of chemical concentrations of the shallow aquifer. The collection trench wells were not designed to monitor groundwater at the site. The collection trench wells are screened in a collection trench, located on the north side of the landfill, which was installed to protect the adjacent Stormwater Retention Pond. The collection trench wells are shallow and screened in permeable fill material placed in the collection trench. An impermeable barrier was installed on the north side of the collection trench to inhibit groundwater influence. Because of well construction relative to the collection trench and the shallow aquifer, the collection trench wells are not considered to be useful monitoring points for collecting representative samples of groundwater conditions. However, the collection trench wells are sampled at the same frequency as the monitoring wells in accordance with the Record of Decision (ROD) requirements.



3.1.2 Statistical Evaluation

In accordance with the Tech Memo (TtFW, 2004), total metals are not included in the detection monitoring program at Site 1. Therefore, only dissolved metals are discussed in the remainder of this report.

Table 3-1 presents the constituents of concern and the calculated concentration limits (CCLs), as detailed in the Tech Memo (TtFW, 2004). CCLs were developed based on ecological screening criteria and site-specific attenuation factors for the groundwater. These CCLs are used as initial screening criteria in the groundwater data evaluation. If analytical results are less than the CCLs, then no additional evaluation is required, and there is no release from the landfill. If CCLs are exceeded, then additional evaluation of the upgradient (background) and downgradient data is conducted to determine whether there has been a release from the landfill. If upgradient concentrations are higher than downgradient concentrations, there is no release from the landfill. Conversely, if downgradient concentrations are higher than upgradient concentrations, additional sampling events are conducted and evaluated to determine whether there has been a release from the landfill. Tables 3-2 through 3-4 present the analytes detected in groundwater samples from monitoring wells and the collection trench at Site 1 during March, May, and November 2004 sampling events.

3.1.3 Visual Trends

Appendix E contains groundwater monitoring point data graphs for monitoring wells and collection trench wells, with at least one detection in 2004, and a total of at least three historical detected concentrations (1999 through 2004). Groundwater monitoring point data graphs are specified in California Code of Regulations, Title 27, Section 20415(e)(14). The graphs in Appendix E are provided on CD only. Trends were determined by visually evaluating the graphs for increasing concentration trends, decreasing concentration trends, or relatively consistent (flat) concentration trends.

Barium, calcium, magnesium, manganese, nickel, potassium, and sodium were all detected at least once in 2004, with at least three historical detected concentrations (1999 through 2004) in samples from every Site 1 groundwater monitoring well. With the exception of barium concentrations in samples from monitoring wells W1-5, W1-8, and W1-12/W1-12R, there were flat visual trends in the concentrations. Monitoring wells W1-5, W1-8, and W1-12/W1-12R, which are all upgradient (background wells), show an increasing concentration trend. Arsenic, cadmium, cobalt, copper, iron, and zinc were found in samples from most, but not all of the Site 1 Landfill monitoring wells. There was a flat visual trend in the concentrations for arsenic, cadmium, cobalt, copper, iron, and zinc. All of these metals are found in seawater (Hem, 1971) and are considered part of the composition of natural groundwater at the Site 1 Landfill.

Antimony, beryllium, chromium, lead, silver, and thallium were all detected at least once in 2004, with at least three historical detected concentrations (1999 through 2004) in samples from

a few of the Site 1 groundwater monitoring wells. There were flat visual trends in the concentrations. All of these metals are also found in seawater (Hem, 1971) and are considered part of the composition of natural groundwater at the Site 1 Landfill.

Carbon disulfide was detected once in 2004, with at least three historical detected concentrations (1999 through 2004) in samples from groundwater monitoring well W1-5 (an upgradient monitoring well). There was a flat visual trend in the carbon disulfide concentrations in samples from monitoring well W1-5. Carbon disulfide is ubiquitous throughout the environment and is likely naturally occurring in the reducing conditions underlying the Site 1 Landfill (TtFW, 2004).

Toluene was detected once in 2004, with a total of at least three historical detected concentrations (1999 through 2004) in samples from groundwater monitoring well W1-1/W1-1R (a downgradient monitoring well). There was a flat visual trend in the toluene concentrations in samples from monitoring well W1-1/W1-1R. No other VOCs, SVOCs, or pesticides were detected in 2004. There was a total of at least three historically detected concentrations (1999 through 2004) in samples from a Site 1 groundwater monitoring well.

3.2 GROUNDWATER QUALITY EVALUATION

Results from the 2004 groundwater sampling events are tabulated in Tables B-8 through B-10 in Appendix B of this document and summarized below.

3.2.1 March 2004 Sampling Event

During the March 2004 sampling event, only four dissolved metals (aluminum, barium, chromium, and zinc), two VOCs (acetone and carbon disulfide), and six pesticides (4,4-dichlorodiphenyldichloroethane [4,4-DDD], alpha-benzene hexachloride [alpha-BHC], beta-BHC, dieldrin, and heptachlor) were detected in samples from monitoring wells at concentrations greater than their respective laboratory reporting levels (see Table 3-2). The following details how aluminum, barium, and chromium exceeded their respective CCLs:

- The aluminum CCL was exceeded only in a sample from downgradient monitoring well W1-16. The exceedance was at a concentration greater than historical background levels. Aluminum was placed on the observation list for confirmation of a CCL exceedance over the next two regularly scheduled sampling rounds. Aluminum was not detected in samples from any monitoring well exceeding a CCL in May or November and thus is considered a false positive.
- The barium CCL was exceeded in samples from every monitoring well. However, all CCL exceedances either occurred in samples from a background well or were less than historical background values, and thus were removed from further consideration.
- Chromium was detected in only the duplicate sample at an estimated concentration in a sample from upgradient monitoring well W1-8. The chromium CCL was exceeded in a sample from a background well and thus was removed from further consideration.

CONSTITUENTS OF CONCERN AND CALCULATED CONCENTRATION LIMITS FORMER NAS MOFFETT FIELD

TABLE 3-1

сос	MDL ^a (μg/L)	SQL ^a (µg/L)	Calculated Concentration Limit (µg/L)
Metals			
Aluminum	6.2	300	870.00
Antimony	0.11	3	50,000.00
Arsenic	0.22	1	89.64
Barium	0.18	10	40.00
Beryllium	0.18	1	6.60
Cadmium	0.2	1	930.00
Chromium	0.19	1	71.50
Cobalt	0.2	1	230.00
Copper	0.19	1	5.15
Lead	0.19	1	810.00
Mercury	0.15	0.5	94.00
Nickel	0.22	1	820.00
Selenium	0.4	1	71.00
Silver	0.22	1	0.22
Thallium	0.19	1	21,300.00
Vanadium	0.21	1	200.00
Zinc	0.26	10	8,100.00
VOCs			
1,1,1,2-Tetrachloroethane	0.2	0.5	7,892.50
1,1,1-Trichloroethane	0.2	0.5	6,801.60
1,1,2,2-Tetrachloroethane	0.3	1	5,339.84
1,1,2-Trichloroethane	0.2	0.5	162.00
1,1-Dichloroethane	0.2	0.5	6.25
1,1-Dichloroethene	0.2	0.5	7.08
1,1-Dichloropropene	0.2	0.5	182.49
1,2,3-Trichlorobenzene	0.2	0.5	12,900.00
1,2,3-Trichloropropane	0.2	0.5	6.39
1,2,4-Trichlorobenzene	0.2	0.5	12,900.00
1,2,4-Trimethylbenzene	0.2	0.5	4,300.00
1,2-Dibromo-3-chloropropane	1	2	6,976.00
1,2-Dichlorobenzene	0.2	0.5	10,707.00
1,2-Dichloroethane	0.2	0.5	12,882.00
1,2-Dichloropropane	0.2	0.5	5.45
1,3,5-Trimethylbenzene	0.2	0.5	4,300.00
1,3-Dichlorobenzene	0.2	0.5	589.30
1,3-Dichloropropane	0.2	0.5	390.10
1,4-Dichlorobenzene	0.2	0.5	10,707.00
2,2-Dichloropropane	0.2	0.5	5.45

CONSTITUENTS OF CONCERN AND CALCULATED CONCENTRATION LIMITS FORMER NAS MOFFETT FIELD

TABLE 3-1

СОС	MDL ^a (µg/L)	SQL ^a (µg/L)	Calculated Concentration Limit (µg/L)
2-Butanone	5	10	2,436.00
2-Chlorotoluene	0.2	0.5	12,900.00
2-Hexanone	1	10	11.88
4-Chlorotoluene	0.2	0.5	12,900.00
4-Methyl-2-pentanone	1	10	236.30
Acetone	2	10	156.00
Benzene	0.2	0.5	1,001.00
Bromobenzene	0.2	0.5	1,126.17
Bromochloromethane	0.2	0.5	5.88
Bromodichloromethane	0.2	0.5	6.47
Bromoform	0.2	1	6.78
Bromomethane	0.2	1	7,296.00
Carbon disulfide	0.2	0.5	0.21
Carbon tetrachloride	0.2	0.5	23,850.00
Chlorobenzene	0.2	0.5	1,117.14
Chloroethane	0.2	1	3.39
Chloroform	0.2	0.5	3.25
Chloromethane	0.2	1	4.98
cis-1,2-Dichloroethene	0.2	0.5	65.49
cis-1,3-Dichloropropene	0.2	0.5	0.20
Dibromochloromethane	0.2	0.5	17,280.00
Dibromomethane	0.2	0.5	6,848.00
Dichlorodifluoromethane	0.5	1	11,520.00
Ethylbenzene	0.2	0.5	2,160.32
Hexachlorobutadiene	0.2	0.5	320.00
Isopropylbenzene	0.2	0.5	4,300.00
m,p-Xylene	0.3	1	4.11
Methylene chloride	1	2	130,432.00
Naphthalene	0.3	0.5	272.60
n-Butylbenzene	0.2	0.5	4,300.00
n-Propylbenzene	0.2	0.5	4,300.00
o-Xylene	0.2	0.5	3.09
p-Isopropyltoluene	0.2	0.5	2,150.86
sec-Butylbenzene	0.2	0.5	4,300.00
Styrene	0.2	0.5	4,300.00
tert-Butylbenzene	0.2	0.5	4,300.00
Tetrachloroethene	0.2	0.5	23.13
Toluene	0.2	0.5	500,000.00
trans-1,2-Dichloroethene	0.2	0.5	70.21

CONSTITUENTS OF CONCERN AND CALCULATED CONCENTRATION LIMITS FORMER NAS MOFFETT FIELD

TABLE 3-1

COC	MDI ^a	COI a	Calculated Community Limit
СОС	MDL ^a (μg/L)	SQL ^a (µg/L)	Calculated Concentration Limit (µg/L)
trans-1,3-Dichloropropene	0.2	0.5	0.20
Trichloroethene	0.2	0.5	9.49
Trichlorofluoromethane	0.2	1	15,360.00
Vinyl chloride	0.2	1	61.95
PCBs			
Aroclor-1016	0.25	1	1.40
Aroclor-1221	0.25	1	1.40
Aroclor-1232	0.25	1	1.40
Aroclor-1242	0.25	1	1.40
Aroclor-1248	0.25	1	1.40
Aroclor-1254	0.25	1	1.40
Aroclor-1260	0.25	1	1.40
Pesticides			
4,4'-DDD	0.03	0.1	36.00
4,4'-DDE	0.03	0.1	140.00
4,4'-DDT	0.02	0.1	0.10
Aldrin	0.01	0.05	13.00
alpha-BHC	0.01	0.05	340.00
alpha-Chlordane	0.01	0.05	0.40
beta-BHC	0.01	0.05	340.00
delta-BHC	0.01	0.05	340.00
Dieldrin	0.01	0.2	0.19
Endosulfan I	0.03	0.05	0.87
Endosulfan II	0.02	0.1	0.87
Endosulfan sulfate	0.02	0.1	0.87
Endrin	0.02	0.1	0.23
Endrin aldehyde	0.02	0.1	0.23
Endrin ketone	0.02	0.1	0.23
gamma-BHC (Lindane)	0.01	0.05	1.60
gamma-Chlordane	0.01	0.05	0.40
Heptachlor	0.01	0.05	0.36
Heptachlor epoxide	0.01	0.05	0.36
Methoxychlor	0.01	0.05	3.00
Toxaphene	1.25	3	1.25
SVOCs		•	
1,1'-Biphenyl	5	10	37.00
2,2'-Oxybis(1-chloropropane)	5	10	5.00
2,4,5-Trichlorophenol	5	10	1,100.00
2,4,6-Trichlorophenol	5	10	411.28

TABLE 3-1

CONSTITUENTS OF CONCERN AND CALCULATED CONCENTRATION LIMITS FORMER NAS MOFFETT FIELD

сос	MDL ^a (μg/L)	SQL ^a (µg/L)	Calculated Concentration Limit (µg/L)
2,4-Dichlorophenol	5	10	1,898.00
2,4-Dimethylphenol	5	10	3,650.00
2,4-Dinitrophenol	10	20	504.40
2,4-Dinitrotoluene	10	20	965.70
2,6-Dinitrotoluene	6	20	747.40
2-Chloronaphthalene	5	10	75.00
2-Chlorophenol	5	10	13.91
2-Methylnaphthalene	5	10	3,000.00
2-Methylphenol	5	10	11.31
2-Nitroaniline	6	20	149.64
2-Nitrophenol	5	10	727.50
3,3'-Dichlorobenzidine	5	10	3.30E+07
3-Nitroaniline	5	10	149.64
4,6-Dinitro-2-methylphenol	10	20	489.85
4-Bromophenyl-phenylether	7	20	7.00
4-Chloro-3-methylphenol	5	10	36.87
4-Chloroaniline	5	10	278.64
4-Chlorophenyl-phenylether	5	10	5.00
4-Methylphenol	5	10	130.00
4-Nitroaniline	5	10	149.64
4-Nitrophenol	5	10	950.60
Acenaphthene	5	10	71,000.00
Acenaphthylene	5	10	300.00
Acetophenone	2.5	10	420.00
Anthracene	5	10	3,000.00
Atrazine	10	20	18,963.00
Benzaldehyde	5	10	5.00
Benzo[a]anthracene	5	10	3,000.00
Benzo[a]pyrene	5	10	3,000.00
Benzo[b]fluoranthene	5	10	3,000.00
Benzo[g,h,i]perylene	5	10	3,000.00
Benzo[k]fluoranthene	5	10	3,000.00
bis(2-Chloroethoxy)methane	5	10	6,720.00
bis(2-Chloroethyl)ether	5	10	3,808.00
bis(2-Ethylhexyl)phthalate	10	20	30.00
Butylbenzylphthalate	5	10	340.00
Caprolactam	5	10	5.00
Carbazole	5	10	37.00
Chrysene	5	10	3,000.00

TABLE 3-1

CONSTITUENTS OF CONCERN AND CALCULATED CONCENTRATION LIMITS FORMER NAS MOFFETT FIELD

СОС	MDL ^a (μg/L)	SQL ^a (μg/L)	Calculated Concentration Limit (μg/L)
di-n-Butylphthalate	5	10	340.00
di-n-Octylphthalate	5	10	340.00
Dibenz[a,h]anthracene	5	10	3,000.00
Dibenzofuran	5	10	37.00
Diethylphthalate	6	20	340.00
Dimethylphthalate	6	20	15.06
Fluoranthene	5	10	1,600.00
Fluorene	5	10	3,000.00
Hexachlorobenzene	6	20	12,900.00
Hexachlorocyclopentadiene	5	10	70.00
Hexachloroethane	5	10	9,400.00
Indeno(1,2,3-cd)pyrene	5	10	3,000.00
Isophorone	5	10	3,044.40
n-Nitroso-di-n-propylamine	5	10	698.40
n-Nitrosodiphenylamine	5	10	3.30E+07
Nitrobenzene	5	10	1,229.12
Pentachlorophenol	10	20	94.80
Phenanthrene	6	20	460.00
Phenol	5	20	904.80
Pyrene	5	20	3,000.00

Notes:

This table is abstracted from the *Technical Memorandum, Site 1 Groundwater Evaluation Process* (TtFW, 2004)

^a The MDL and SQL are based on the specific analytical methods listed in Section 4.1 of the Tech Memo (TtFW, 2004). MDLs are likely to change slightly for each analysis, as the MDL depends on both sample and instrument conditions at the time of analysis. For those cases where the CCLs have been made equal to the MDL, the CCL may change slightly for each analysis event.

Shaded cells indicate that CCL was raised to meet available MDL.

Abbreviations and Acronyms:

 $\mu g/L - micrograms \ per \ liter$

BHC - benzenehexachloride

CCL - calculated concentration limit

 $COC-constitutent\ of\ concern$

DDD-dichlorodiphenyldichloroethane

DDE-dichlorodiphenyl trichloroethene

DDT-dichlorodiphenyl trichloroethane

MDL - method detection limit

NAS - Naval Air Station

PCB - polychlorinated biphenyl

SQL - sample quantitation limit

SVOC - semivolatile organic compound

TtFW - Tetra Tech FW, Inc.

VOC - volatile organic compound

TABLE 3-2 Page 1 of 1

MARCH 2004 DETECTED ANALYTES IN GROUNDWATER FORMER NAS MOFFETT FIELD

	71-S1-017	71-S1-018	71-S1-019	71-S1-020	71-S1-022	71-S1-023	71-S1-024	71-S1-025	71-S1-026	71-S1-027	71-S1-028	71-S1-029
COC	W1-1	W1-15	W1-19	W1-19 (DUP)	W1-14	W1-12R	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/31/04	3/31/04
Dissolved Metals (μg/L)	EPA Method	6010B										
Aluminum	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	$4,000 \text{ U}^{\text{b}}$	4,000 U ^b	4,000 U ^b	3,800 J
Barium	66.6 J	157 J	81.8 J	83.4 J	145 J	75.8 J	313	485	121 J	164 J	246	384
Chromium	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	107 J	400 U	400 U
Zinc	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	102 J	400 U	400 U
VOCs (µg/L)	EPA Method	8260B										
Acetone	10 U	10 U	10 U	10 U	10 U	10 U	6 J	10 UJ	10 UJ	10 UJ	10 U	10 U
Carbon disulfide	0.5 UJ	0.21 J	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Pesticides (µg/L)	EPA Method	8081A										
4,4'-DDD	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 UJ	0.1 UJ	0.039 J	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ
alpha-BHC	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.033 J	0.047 U	0.047 U	0.047 U	0.047 U	0.018 J
beta-BHC	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.029 J	0.047 U	0.047 U	0.047 U	0.047 J
delta-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 UJ	0.05 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.03 J
Dieldrin	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.1 U	0.05 J	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Heptachlor	0.047 UJ	0.047 UJ	0.013 J	0.047 U	0.047 UJ	0.05 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ
General Chemistry (mg/L)												
Nitrate as Nitrogen	0.14	0.1 U	0.1 U	0.1 U	0.118	1.11	0.527	1.68	2.95	2.99	0.215	0.1 U
Total organic carbon	6.07	12.90	9.41	9.00	11.80	6.48	95.30	11.30	10.00	10.00	22.00	18.00

Notes:

Shading indicates concentration above the calculated concentration limit.

Metals analysis was conducted using EPA Test Method 6010B. Per the *Final Technical Memorandum Site 1 Groundwater Evaluation Process* (TtFW, 2004), future dissolved metals sampling was performed using EPA Test Method 200.8.

Abbreviations and Acronyms:

μg/L – micrograms per liter

mg/L - milligrams per liter

BHC-benzeneh exachloride

COC - constitutent of concern

DDD-dichlorodiphenyldichloroethane

DUP – duplicate sample

EPA – U.S. Environmental Protection Agency

J – estimated value

NAS – Naval Air Station

TtFW - Tetra Tech FW, Inc.

U – analyte not detected above method reporting limit

UJ – analyte not detected above the estimated reporting limit

VOC - volatile organic compound

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1.

^b – Aluminum was detected but was not confirmed in the Trace-ICP run and lab contamination was suspected during dilution process. Therefore, the result was reported from the Trace-ICP re-run on 04/26/04.

TABLE 3-3 Page 1 of 1

MAY 2004 DETECTED ANALYTES IN GROUNDWATER FORMER NAS MOFFETT FIELD

	86-S1-001	86-S1-002	86-S1-003	86-S1-004	86-S1-006	86-S1-007	86-S1-008	86-S1-009	86-S1-010	86-S1-011	86-S1-012	86-S1-013
COC	W1-1	W1-1 (DUP)	W1-15	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22 ^a	W1-5	W1-8	W1-24	W1-16
	5/24/04	5/24/04	5/24/04	5/25/04	5/25/04	5/25/04	5/25/04	5/26/04	5/26/04	5/26/04	5/26/04	5/26/04
Dissolved Metals (mg/L)	EPA Method	200.8 (unless o	otherwise note	rd)								
Antimony	1.02 U	0.9 U	0.98 U	2.2	0.9U	0.9U	0.93 U	0.65 U	2.09	1.86 U	2.14	2.25 J
Arsenic	0.63 J	0.6 J	5.17	3.04 J	5.35 J	4.92J	2.24 J	2.56 J	3.62 J	1.57 J	6.78 J	6.43 J
Barium	71.5	72J	181	86.6	152	155 J	78.2	357	524	130	214	229 J
Beryllium	0.007 U	0.006 U	0.016 J	0.009 U	0.01 U	0.011U	0.006 U	0.023 J	0.007 U	0.006 U	0.014 J	0.013 J
Cadmium	0.171	0.185 J	0.006 U	0.414	0.011 J	0.009U	0.066	0.006 U	0.012 J	0.134	0.006 U	0.054 J
Chromium	0.72	0.64J	1.76	0.37 J	0.56	0.54J	0.46	3.84	0.8	0.43	1.23	0.49 J
Cobalt	3.49 J	3.41J	2.65	8.24 J	7.16 J	7.69 J	5.67 J	0.956 J	3.09 J	0.882 J	4.65 J	5.61 J
Copper	0.51	0.5 J	0.22	1.56	0.14 J	0.11 J	0.17 J	0.38	0.08 J	0.26	0.19 J	0.13 J
Lead	0.023 J	0.02J	0.018 U	0.076	0.02 J	0.022J	0.018 U	0.018 U	0.018 U	0.018 U	0.024 J	0.247 J
Nickel	19.4	19.6 J	6.06	13	9.47	9.72J	41	75.9	6.86	5.66	14.8	14.4 J
Silver	0.054	0.033J	0.011 J	0.02 J	0.016 J	0.033 J	0.038 J	0.01 U	0.01 U	0.034 J	0.016 J	0.239 J
Thallium	0.066	0.065J	0.001 U	0.067	0.006 U	0.006U	0.022 J	0.002 U	0.016 U	0.025 J	0.008 U	0.008 U
Vanadium (EPA Method 6010B)	11.8	6 U	6 U	6 U	9 J	6 U	6 U	6 U	10.2	6 U	6.8 J	6 U
Zinc	7020	8810 ^b	2.38 J	3.4 J	1.22 J	1.19J	41.3 J	26.3 J	0.87 J	3.74 J	1.17 J	0.46 J
VOCs (µg/L)	EPA Method	! 8260B										
Acetone	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	2.9 J	10 U	10 U	2.8 J	10 U
Carbon disulfide	0.5 U	0.5 U	0.24 J	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.54	0.71	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Pesticides (µg/L)	EPA Method	! 8081A										
alpha-BHC	0.047 U	0.047 U	0.061	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	0.047 U	0.047 U	0.38	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.053	0.047 U	0.047 U	0.047 U	0.047 U
SVOCs (mg/L)	EPA Method 8270C											
bis(2-Ethylhexyl)phthalate	19 U	42	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Caprolactam	9.4 U	6.2 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

Notes:

Shading indicates concentration above the calculated concentration limit.

Abbreviations and Acronyms:

 $\mu g/L$ – micrograms per liter

mg/L – milligrams per liter

BHC-benzeneh exachloride

COC – constitutent of concern

DUP – duplicate sample

EPA – U.S. Environmental Protection Agency

J – estimated value

NAS – Naval Air Station

SVOC - semivolatile organic compound

U – analyte not detected above method reporting limit

UJ – analyte not detected above the estimated reporting limit

VOC – volatile organic compound

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1.

^b – Duplicate sample was re-run at the request of the project chemist. All re-run values were less than the calculated concentration limit, but are not reported because not all of the appropriate laboratory quality control documentation was completed.

TABLE 3-4 Page 1 of 1

NOVEMBER 2004 DETECTED ANALYTES IN GROUNDWATER FORMER NAS MOFFETT FIELD

	86-S1-056	86-S1-057	86-S1-058	86-S1-060	86-S1-061	86-S1-062	86-S1-063	86-S1-064	86-S1-065	86-S1-066	86-S1-067	86-S1-068
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	11/8/04	11/8/04	11/8/04	11/8/04	11/9/04	11/9/04	11/9/04	11/9/04	11/10/04	11/10/04	11/10/04	11/10/04
Dissolved Metals (mg/L)	EPA Method	200.8										
Aluminum	50 U	50 U	50 U	50 U	50 U	50.2	50 U	50 U	50 U	50 U	50 U	50 U
Antimony	4.22	4.89	4.82 J	4.49	4.94	1.94 U	2.2 U	2.81 UJ	3.4 U	3.65 UJ	2.72 U	1.64 U
Arsenic	5.75 J	7.96 J	2.82 J	7.53 J	3.31 J	2.2 J	1.74 J	1.79 J	3.81 J	3.88 J	11.5 J	4.91 J
Barium	111	126	81.3 J	147	60.5	1160	481	477 J	149	141 J	250	417
Beryllium	0.005 J	0.015 J	0.003 J	0.007 J	0.005 J	0.022 J	0.005 J	0.004 J	0.004 J	0.008 J	0.015 J	0.009 J
Cadmium	0.003 J	0.006 U	0.421 J	0.014 J	0.041	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.005 J	0.006 J
Chromium	0.25 J	0.51 J	0.17 J	0.44 J	0.26 J	6.19 J	0.64 J	0.62 J	0.73 J	0.63 J	1.65 J	0.63 J
Cobalt	8.68 J	4.36 J	11 J	6.09 J	3.28 J	0.101 J	0.727 J	1.15 J	0.775 J	1.28 J	1.98 J	5.93 J
Copper	0.3 J	0.13 J	0.38 J	0.23 J	0.24 J	0.37 J	0.11 J	0.15 J	0.14 J	0.16 J	0.17 J	0.17 J
Lead	0.017 J	0.018 U	0.039 J	0.145	0.012 J	0.213	0.009 J	0.009 U	0.143	0.009 U	0.021	0.009 U
Nickel	19.2	7.6	12.7 J	7.6	8.35	21.3	4.04	4.08 J	4.24	4.1 J	10.2	11.7
Silver	0.092	0.01 U	0.011 J	0.012 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Thallium	0.037	0.001 U	0.062 J	0.001 U	0.05	0.001 J	0.007 J	0.001 J	0.001 U	0.001 U	0.002 J	0.001 U
Zinc	4.17 J	22.7 J	37.4 J	29.5 J	68.6 J	1320 J	0.79 J	0.5 J	4.92 J	3.2 J	2.22 J	0.42 J
VOCs (μg/L)	EPA Method	8260B										
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 UJ	0.23 J	0.5 UJ	0.23 J	0.5 UJ	0.5 UJ
Pesticides (µg/L)	EPA Method 8081A											
alpha-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.011 J	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.14	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.029 J	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.032 J	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Heptachlor epoxide	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.034 J	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U

Notes:

Shading indicates concentration above the calculated concentration limit.

^a – Well W1-22 is a collection trench well and not representative of groundwater at Site 1.

Abbreviations and Acronyms:

μg/L - micrograms per liter

mg/L – milligrams per liter

BHC – benzenehexachloride

COC - constituent of concern

DUP – duplicate sample

EPA - Environmental Protection Agency

J – estimated value

NAS - Naval Air Station

U – analyte not detected above method reporting limit

UJ – analyte not detected above the estimated reporting limit

VOC - volatile organic compound

Also during the March 2004 sampling event, only one dissolved metal (barium), one VOC (acetone), and three pesticides (4,4-DDD, alpha-BHC, and dieldrin) were detected in samples from trench well W1-22 at concentrations greater than their respective laboratory reporting levels (see Table 3-2).

3.2.2 May 2004 Sampling Event

During the May 2004 sampling event, every dissolved metal (analyzed by EPA Method 200.8), three VOCs (acetone, carbon disulfide, and toluene), three pesticides (alpha-BHC, beta-BHC, and gamma-chlordane), and two SVOCs (bis[2-ethylhexyl]phthalate [BeP] and caprolactam) were detected at concentrations greater than their respective laboratory detection levels (see Table 3-3). The following details how barium, silver, zinc, carbon disulfide, BeP and caprolactam exceeded their respective CCLs:

- The barium CCL was exceeded in samples from every monitoring well. Barium occurred in samples from a background well or was below historical background values. Thus, it was removed from further consideration.
- The silver CCL was exceeded at an estimated value only in a sample from downgradient monitoring well W1-16. The estimated value for silver was less than the historical background and thus was removed from further consideration.
- The zinc CCL was exceeded only in the duplicate sample for monitoring well W1-1. However, the duplicate sample for monitoring well W1-1 was re-run at the request of the TtFW Project Chemist. All re-run values were less than their respective CCLs, which was interpreted to suggest that there were difficulties with the initial analysis of groundwater from monitoring well W1-1. Thus, zinc was considered to not have exceeded its CCL.
- The carbon disulfide CCL was exceeded at an estimated value only in a sample from downgradient monitoring well W1-15. However, the reported value was less than historical background levels and therefore was removed from further consideration.
- The BeP CCL was exceeded only in the duplicate sample from downgradient monitoring well W1-1. BeP is often a laboratory contaminant. However, since this was the first time SVOCs were sampled at Site 1, there was no historical database for comparison. Therefore, this compound was placed on the observation list for confirmation of a CCL exceedance over the next two rounds in the supplemental groundwater sampling for an SVOC baseline. BeP was not detected in monitoring well W1-1 in the July and August supplemental groundwater sampling events. Therefore, the May CCL exceedance for this compound is treated as a false positive, and this compound was removed from further consideration.
- The caprolactam CCL was exceeded only in the duplicate sample from monitoring well W1-1. Because this was the first time SVOCs were sampled at Site 1, there was no historical database for comparison. This compound was placed on the observation list for confirmation of a CCL exceedance over the next two rounds in the supplemental groundwater sampling for an SVOC baseline. Caprolactam was not

detected in well W1-1 in the July and August supplemental groundwater sampling events. Therefore, the May CCL exceedance for this compound is treated as a false positive, and this compound was removed from further consideration.

Also during the May 2004 sampling event, eight dissolved metals (arsenic, barium, beryllium, chromium, cobalt, copper, nickel, and zinc), one VOC (acetone), and one pesticide (gamma-chlordane) were detected in samples from trench well W1-22 at concentrations greater than their respective laboratory detection levels (see Table 3-3).

3.2.3 November 2004 Sampling Event

During the November 2004 sampling event, every dissolved metal (analyzed by EPA Method 200.8), one VOC (carbon disulfide), and five pesticides (alpha-BHC, beta-BHC, delta-BHC, endrin, and heptachlor epoxide) were detected at concentrations greater than their respective laboratory detection levels (see Table 3-2, page 3 of 3). The following details how barium and carbon disulfide exceeded their respective CCLs:

- The barium CCL was exceeded in samples from every monitoring well. Barium either occurred in samples from a background well or was below historical background values. Thus, it was removed from further consideration.
- The carbon disulfide CCL was exceeded at estimated values in only the duplicate samples from background monitoring wells W1-5 and W1-8. Both exceedances occurred in samples from background wells and therefore were removed from further consideration.

Also during the November 2004 sampling event, 11 dissolved metals (aluminum, arsenic, barium, beryllium, chromium, cobalt, copper, lead, nickel, thallium, and zinc), and five pesticides (alpha-BHC, beta-BHC, delta-BHC, endrin, and heptachlor epoxide) were detected in samples from trench well W1-22 at concentrations greater than their respective laboratory detection levels (see Table 3-4).

3.2.4 Supplemental Sampling Events

There were no detections for dissolved mercury or for any SVOC greater than the laboratory reporting level for the supplemental groundwater samples collected in July, August, September, and December 2004 (see Appendix B).

4.0 METHANE MONITORING

As part of landfill monitoring activities, methane monitoring was conducted for 19 passive gas vent (GV) wells within the Site 1 Landfill and 4 landfill gas monitoring wells on the perimeter of the landfill. Methane monitoring is also performed at the perimeter of the site at 150-foot intervals. The monitoring program was conducted in accordance with Section 6 of the Site 1 Landfill Final Closure Plan and Post-Closure Maintenance Plan (Tetra Tech EM, Inc., 1998), Section 5.2 of the Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) Sampling and Analysis Plan (International Technology Corporation, 2000), and the Final Sampling and Analysis Plan Addendum for Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) (Foster Wheeler Environmental Corporation, 2001a). The monitoring program was conducted in March, May, and November 2004, using a Landtec GA 90 portable methane monitor. Methane monitoring locations are shown in Figure 4-1.

4.1 LANDFILL GAS MONITORING WELL AND GAS VENT RESULTS

The results of landfill gas monitoring well and GV monitoring are shown in Table 4-1. In general, the percentages of methane gas concentrations within the landfill were slightly lower in November 2004 than in March or May 2004 and are similar to historical concentrations. Methane concentrations were highest in March 2004, near the northern portion of the landfill (GV-8 at 57.9 percent), followed by a detected concentration of 52.1 percent in GV-11, which is near the center of the landfill. None of the perimeter wells (LGMW1-1 through LGMW1-4) showed concentrations of methane above the concentrations limit of 5 percent (all readings were zero percent), as specified in 27 Code of Federal Regulations, Section 20921(a)(2) and as identified in the *Moffett Federal Airfield Final Operable Unit 1 Record of Decision* (Navy, 1997). Appendix F contains methane monitoring data graphs for the 19 GV wells and the 4 landfill gas monitoring wells.

4.2 PERIMETER GAS MONITORING RESULTS

Perimeter monitoring points (P-1 through P-21) are located along the perimeter fence line at approximate 150-foot intervals. Methane was not detected at any of the perimeter monitoring locations in March, May, or November 2004.

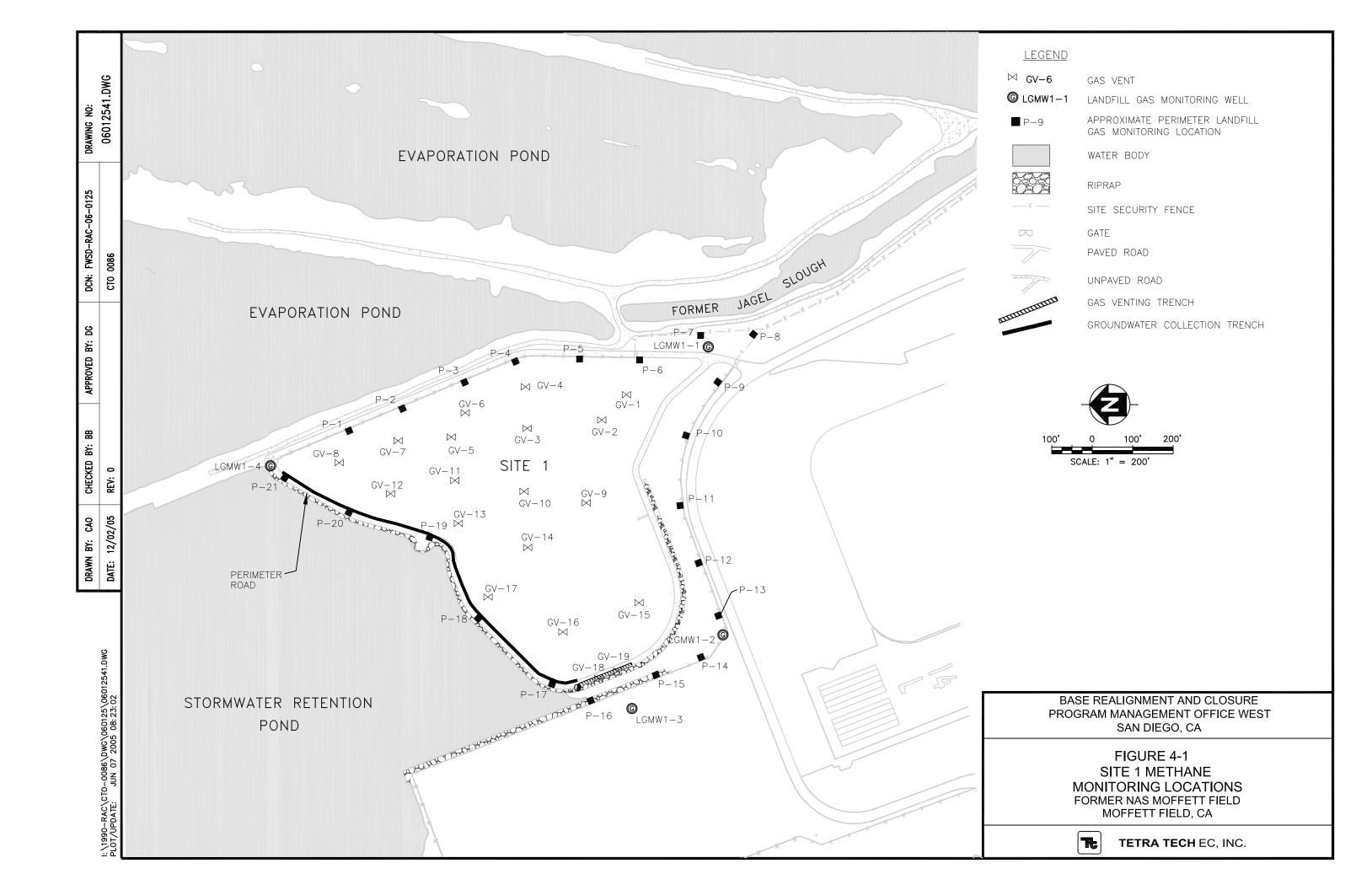


TABLE 4-1

2004 LANDFILL GAS MONITORING WELL AND GAS VENT METHANE MONITORING RESULTS FORMER NAS MOFFETT FIELD

Monitoring		Percent Methane ¹	
Location	March 23, 2004	May 27, 2004	November 11, 2004
GV-1	0.0	0.0	1.4
GV-2	0.0	0.0	0.0
GV-3	0.0	0.0	0.0
GV-4	0.0	0.0	0.0
GV-5	42.0	10.0	4.4
GV-6	0.0	0.0	0.0
GV-7	37.0	36.3	24.1
GV-8	57.9	29.0	16.7
GV-9	0.0	0.0	0.0
GV-10	1.1	25.6	24.0
GV-11	51.1	52.1	31.2
GV-12	6.2	2.2	0.0
GV-13	0.5	0.0	0.0
GV-14	0.0	0.0	0.0
GV-15	0.0	0.0	0.0
GV-16	0.0	0.0	0.0
GV-17	0.0	0.0	0.0
GV-18	0.0	0.0	0.0
GV-19	0.0	0.0	0.0
LGMW1-1	0.0	0.0	0.0
LGMW1-2	0.0	0.0	0.0
LGMW1-3	0.0	0.0	0.0
LGMW1-4	0.0	0.0	0.0

Notes:

Abbreviations and Acronyms:

GV - gas vent

LGMW – landfill gas monitoring well

NAS - Naval Air Station

 $^{^1}$ - Methane concentrations were measured using a Landtec GA 90 portable methane meter. Accuracy is $\pm\,0.3\%$ by volume at 5% concentration, and $\pm\,1.9\%$ by volume at 60% concentration.

5.0 CONCLUSIONS

Depth to groundwater measurements were collected from Site 1 Landfill monitoring wells, piezometers, and collection trench wells on:

- March 22, 2004
- May 24, 2004
- November 8, 2004
- July 6, 2004
- August 18, 2004
- September 27, 2004
- December 13, 2004

Groundwater elevations for all Site 1 Landfill measurements were below sea level for 2004. In general, the groundwater elevations are similar to previous years. The groundwater flows from north to south at the Site 1 Landfill. The gradient from north to south was approximately:

- 0.0007 feet per foot (ft/ft) in March 2004
- 0.0008 ft/ft in May 2004
- 0.0008 ft/ft in July 2004
- 0.0007 ft/ft in August 2004
- 0.0008 ft/ft in September 2004
- 0.0005 ft/ft in November 2004
- 0.0008 ft/ft in December 2004

The following water level trends were observed in 2004:

- Most monitoring wells had seasonal high-water levels in March.
- Most monitoring wells had seasonal low-water levels in August.

The seasonal water level fluctuation was on the order of 0.5 feet.

The water levels in monitoring well pair W1-19/PZ1-18 show continuous upward potential for all but the August 18, 2004, measurement since 1999. However, the water level in monitoring well W1-19 on August 18, 2004, is not consistent with the long-term trend. The water levels in monitoring well pair W1-20/PZ1-21 show a slight upward potential.

Regularly scheduled groundwater sampling was conducted at Site 1 in March, May, and November 2004. In addition, supplemental groundwater sampling was completed in July, August, September, and December 2004. The supplemental groundwater sampling was conducted to develop the database required for the evaluation of dissolved mercury and semivolatile organic compounds (SVOCs). Groundwater samples were collected from nine monitoring wells, as well as from collection trench well W1-22. Collection trench well W1-23 could not be sampled due to insufficient water.

Analytical testing during 2004 changed after the approval of the *Final Technical Memorandum*, *Site 1 Groundwater Evaluation Process* (Tech Memo) (Tetra Tech FW, Inc. [TtFW], 2004). After the March sampling event, the following changes took place:

- Dissolved metals analyses, which previously had been performed using United States Environmental Protection Agency (EPA) Method 6010B, changed to EPA Method 200.8 (to lower the method detection level), and dissolved mercury using EPA Method 7470A was added.
- SVOCs analyses by EPA Method 8270C were added.

Twelve samples, including two duplicate samples, were collected from nine groundwater monitoring wells and one collection trench well at the Site 1 Landfill for each sampling event. The analytical results from the collection trench well are not considered representative of chemical concentrations of the shallow aquifer (see Section 3.1.1).

Seven metals were detected at least once in 2004, with at least three historical detected concentrations (1999 through 2004) in samples from every Site 1 Landfill groundwater monitoring well. With the exception of barium concentrations in samples from monitoring wells W1-5, W1-8, and W1-12/W1-12R, there were flat visual trends in the concentrations. Monitoring wells W1-5, W1-8, and W1-12/W1-12R, which are all upgradient (background wells) show an increasing concentration trend. There were an additional six metals that were found in samples from most, but not all of the Site 1 Landfill monitoring wells. There was a flat visual trend in the concentrations for these metals. All of these metals are found in seawater (Hem, 1971) and are considered part of the composition of natural groundwater at the Site 1 Landfill.

Seven additional metals were detected at least once in 2004, with at least three historical detected concentrations (1999 through 2004) in samples from a few of the Site 1 groundwater monitoring wells. There were flat visual trends in the concentrations. All of these metals are also found in seawater (Hem, 1971) and are considered part of the composition of natural groundwater at the Site 1 Landfill.

Carbon disulfide was detected once in 2004, with at least three historical detected concentrations (1999 through 2004) in samples from groundwater monitoring well W1-5 (an upgradient monitoring well). There was a flat visual trend in the carbon disulfide concentrations in samples

from monitoring well W1-5. Carbon disulfide is ubiquitous throughout the environment, and is likely naturally occurring in the reducing conditions underlying the Site 1 Landfill (TtFW, 2004).

Toluene was detected once in 2004, with at least three historical detected concentrations (1999 through 2004) in samples from groundwater monitoring well W1-1/W1-1R (a downgradient monitoring well). There was a flat visual trend in the toluene concentrations in samples from monitoring well W1-1/W1-1R. No other volatile organic compounds (VOCs), SVOCs, or pesticides were detected in 2004 with at least three historically detected concentrations (1999 through 2004) in samples from a Site 1 groundwater monitoring well.

During the March 2004 sampling event, only four dissolved metals (aluminum, barium, chromium, and zinc), two VOCs (acetone and carbon disulfide), and six pesticides (4,4-dichlorodiphenyldichloroethane [4,4-DDD], alpha-benzene hexachloride [alpha-BHC], beta-BHC, delta-BHC, dieldrin, and heptachlor) were detected in samples from monitoring wells at concentrations greater than their respective laboratory reporting levels. The concentrations of aluminum, barium, and chromium exceeded their respective calculated concentration limits (CCLs) in samples from a monitoring well. Although aluminum exceeded its CCL in a sample from a downgradient monitoring well (greater than historical background levels), it was not detected in samples from any monitoring well exceeding a CCL in May or November and thus is considered a false positive (see Section 3.2.1). The barium exceedances either occurred in samples from a background well or were less than historical background values and thus were removed from further consideration. The chromium CCL was exceeded in a sample from a background well, and thus was removed from further consideration.

Also during the March 2004 sampling event, only one dissolved metal (barium), one VOC (acetone), and three pesticides (4,4-DDD, alpha-BHC, and dieldrin) were detected in samples from trench well W1-22 at concentrations greater than their respective laboratory reporting levels.

During the May 2004 sampling event, every dissolved metal, three VOCs (acetone, carbon disulfide, and toluene), three pesticides (alpha-BHC, beta-BHC, and gamma-chlordane), and two SVOCs (bis[2-ethylhexyl]phthalate [BeP] and caprolactam) were detected at concentrations greater than their respective laboratory detection levels. The barium, silver, zinc, carbon disulfide, BeP, and caprolactam CCLs were exceeded in samples from a monitoring well. Barium occurred in a sample from a background well or was below historical background values. Thus, it was removed from further consideration. The silver and carbon disulfide exceedances were less than historical background and thus were removed from further consideration. The zinc CCL was exceeded only in a duplicate sample and was re-run, with all re-run values being less than the CCL. The initial zinc analysis was interpreted to be in error. Both the BeP and caprolactam CCL exceedances were only in the duplicate sample. BeP and caprolactam were not detected in the regular sample collected from this well at the same time as the duplicate sample. In addition, BeP is often a laboratory contaminant. However, since this was the first time SVOCs

were sampled at Site 1, there was no historical database for comparison. BeP and caprolactam were not detected in the July and August supplemental groundwater sampling events. The May CCL exceedance for these compounds is treated as a false positive, and these compounds were removed from further consideration.

Also during the May 2004 sampling event, eight dissolved metals (arsenic, barium, beryllium, chromium, cobalt, copper, nickel, and zinc), one VOC (acetone), and one pesticide (gamma-chlordane) were detected in samples from trench well W1-22 at concentrations greater than their respective laboratory detection levels.

During the November 2004 sampling event, every dissolved metal, one VOC (carbon disulfide), and five pesticides (alpha-BHC, beta-BHC, delta-BHC, endrin, and heptachlor epoxide) were detected at concentrations greater than their respective laboratory detection levels. Only barium and carbon disulfide exceeded their respective CCLs in samples from a monitoring well. Barium either occurred in a sample from a background well or was below historical background values. Thus, it was removed from further consideration. The carbon disulfide CCL was exceeded at estimated values in only duplicate samples. Both exceedances occurred in samples from background wells and therefore were removed from further consideration.

Also during the November 2004 sampling event, 11 dissolved metals (aluminum, arsenic, barium, beryllium, chromium, cobalt, copper, lead, nickel, thallium, and zinc), and five pesticides (alpha-BHC, beta-BHC, delta-BHC, endrin, and heptachlor epoxide) were detected in samples from trench well W1-22 at concentrations greater than their respective laboratory detection levels.

There were no detections of dissolved mercury or of any SVOC greater than the laboratory reporting level for the supplemental groundwater samples collected in July, August, September, and December 2004. In accordance with the Tech Memo (TtFW, 2004), analytical results obtained throughout 2004 indicate that there has not been a release from the landfill to groundwater.

As part of landfill monitoring activities, methane monitoring was conducted for 19 passive gas vent wells within the Site 1 Landfill and 4 landfill gas monitoring wells on the perimeter of the landfill. Gas monitoring is also performed at the perimeter of the site at 150-foot intervals. No landfill gas is migrating off site.

In general, the percentages of methane gas concentrations within the landfill were slightly lower in November 2004 than in March or May 2004 and are similar to historical concentrations. Methane concentrations were highest in May 2004, near the northern portion of the landfill (GV-8 at 57.9 percent), followed by a detected concentration of 52.1 percent in GV-11, which is near the center of the landfill. None of the perimeter wells showed concentrations of methane above the concentrations limit of 5 percent (all readings were zero percent). Methane was not detected at any of the perimeter monitoring locations in March, May, or November 2004.

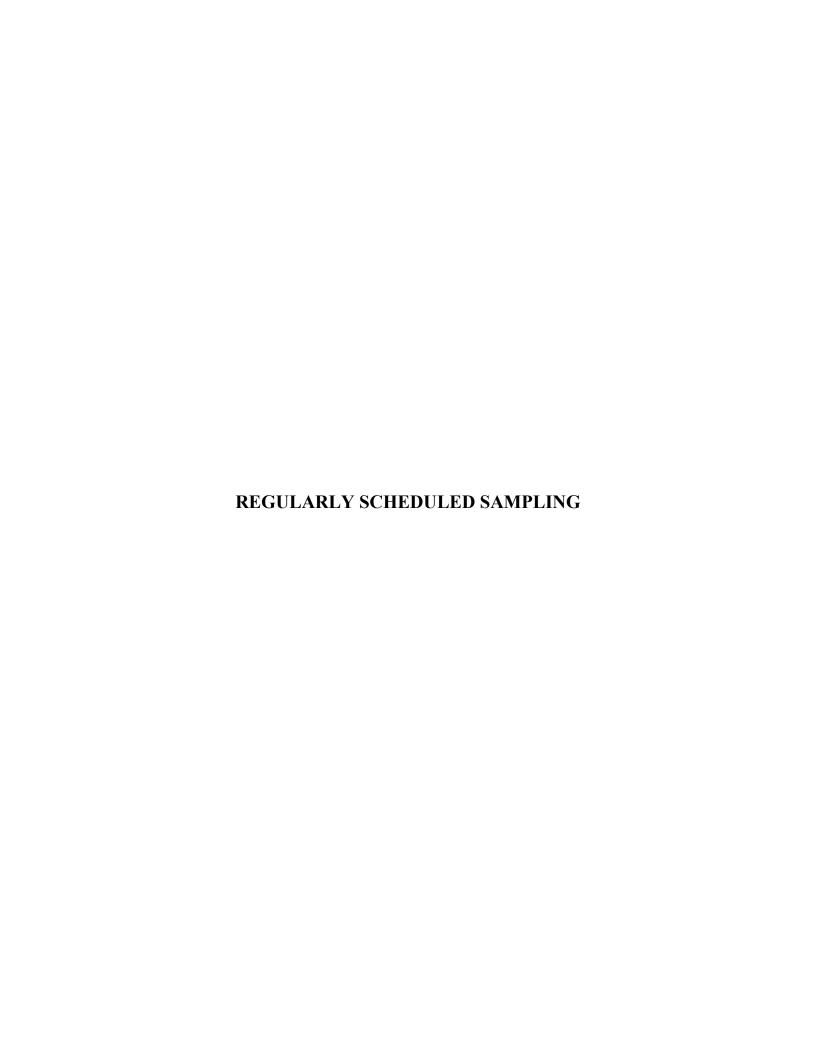
As part of landfill maintenance necessary. The landfill cover is in		routinely	inspected	and	repaired,	as

6.0 REFERENCES

- Department of the Navy (Navy). 1997. *Moffett Federal Airfield Final Operable Unit 1 Record of Decision*. Moffett Federal Airfield, Moffett Field, California. August 1.

 Foster Wheeler Environmental Corporation (FWENC). 2001a. *Final Sampling and Analysis Plan*.
- Foster Wheeler Environmental Corporation (FWENC). 2001a. Final Sampling and Analysis Plan Addendum for Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2). June 5.
- ______. 2001b. Final Site-Specific Contractor Quality Control Plan for Sites 1 and 2 Groundwater Monitoring and Maintenance. Moffett Federal Airfield, Moffett Field, California. May 23.
- Hem, John D. 1971. *Study and Interpretation of the Chemical Characteristics of Natural Water*. Geological Survey Water-Supply Paper 1473. Second Edition.
- International Technology Corporation (IT). 1993. Remedial Investigation Report, Operable Unit 1, Landfill Sites 1 and 2. NAS Moffett Field. March.
- ______. 2000. Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) Sampling and Analysis Plan. November.
- Tetra Tech EM, Inc. (TtEMI). 1998. Site 1 Landfill Final Closure Plan and Post-Closure Maintenance Plan. Moffett Field, California. July 26.
- ______. 2000. Draft Northern Channel Physical Characterization Report. February.
- Tetra Tech FW, Inc. (TtFW). 2004. Final Technical Memorandum, Site 1 Groundwater Evaluation Process. April.

APPENDIX A FIELD SAMPLING DATA





Tŧ	TETRATECH	FW, INC.
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LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page		_ of _	<u> </u>
Date	3-	22-1	04

Project CTD 71 - STHC 1 , Q1
Average Water Level (from TOC)
Sample Date 3-29-04 Reference Point TOC PID Readings (background) O PIM
Sampling Personnel B, Dale Mc Discolved Reference Elevation PID Reading (TOC) Off Mc Discharge Reference Elevation Notes Well Depth MEAS 25.90 RPTD Feet of Water Depth of Bottom of Tubing 20' Depth to Water (w/ Tubing in Well) 4.92 PURGING Specific Conduct. Conduct. Volume of Water Rate Oxygen Eh/ORP Temp. (µmhos/cm Turbidity Removed/Purged Depth to Depth Temp.
Sample ID 71-SI-DIT Depth MEAS 25:90 RPTD Feet of Water Depth of Bottom of Tubing 20' Depth to Water (w/ Tubing in Well) 4:92 PURGING Discharge Rate Dissolved Oxygen Eh/ORP Temp. (µmhos/cm Turbidity Removed/Purged Depth to Depth
Sample ID
Depth of Bottom of Tubing 20' Depth to Water (w/ Tubing in Well) 4,92 PURGING Discharge Rate Dissolved Oxygen Eh/ORP Temp. Eh/ORP Temp. Cumulative Volume of Water (w/ Tubidity Removed/Purged Depth to De
Depth of Bottom of Tubing 20' Depth to Water (w/ Tubing in Well) 4,92 PURGING Discharge Rate Dissolved Oxygen Eh/ORP Temp. Eh/ORP Temp. Cumulative Volume of Water (w/ Tubidity Removed/Purged Depth to De
PURGING Discharge Rate Oxygen Eh/ORP Temp. Eh/ORP Temp. Cumulative Volume of Water Removed/Purged Discharge Removed/Purged Discharge Discha
Discharge Dissolved Rate Oxygen Eh/ORP Temp. Specific Conduct. (µmhos/cm Turbidity Removed/Purged Discharge Removed/Purged Depth to
Discharge Dissolved Rate Oxygen Eh/ORP Temp. Conduct. Conduct. Volume of Water PID/OVA Reading Removed/Purged Depth to
Discharge Dissolved Rate Oxygen Eh/ORP Temp. Conduct. Conduct. Volume of Water PID/OVA Reading Removed/Purged Depth to
Rate Oxygen Eh/ORP Temp. (μmhos/cm Turbidity Removed/Purged Depth to
1 DDE 1 (L/DD) 1 (DD) 1 DM 1 (DV) 1 (*C) 1 21*C) 1 (NDD) 1 (Gallons) 1 Location 1 Value 1 Water /ft) 1 Commonto
1006 0.3 Hu 11.2 6.59 221 23.09 59860 0.0 0.3 4.92
1009 0.3 5.3 6.62 221 23.07 59990 0.0 0.5 4.9
1012 0.3 4.3 6.64 224 23.15 60030 0.0 0.7 4.90
1015 0.3 4.2 6.66 224 23.27 60052 0.0 0.9 4.91
1018 0.3 4,1 0.67 225 23.30 59968 0.0 1.2 4,91
1021 Well Stable
1022 Collect Sample
Notes: 1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot
SAMPLE PARAMETERS
3× VOCs 2× Pesticide 2× ACBs 1× T. Metals 1× D. Metals 1× TOC/NI-NA SAMPLE RATE
0.1 4M 0.3 4M 0.3 4M 0.3 4M 0.3 4M
Notes:
1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute
Partateoria Carrella
Condition of Well: BUTTA WATER TIPM VALUE
Remarks: VOCs effervessed. D. Metals were titlered in field. Mercury included in analysis
FIELD EQUIPMENT
pH Meter Hydrolab Serial Number 37995 Number of Bottles 10
Temperature Meter Serial Number
Turbidity Meter Serial Number
Spec. Elec. Cond. Meter Serial Number Field Notebook 19
ORP Meter Serial Number
D.O. Meter Serial Number Sample Method LOW-FISH Grab
Interface Probe Solinst Serial Number 275 87
PID/OVA Mini RAE 2000 Serial Number 00 320
Pump <u>6eotech</u> Serial Number <u>AD 1006563</u>
Filter Apparatus Discharge Water Containerized X Yes No.

	Tŧ	TETRATECH	FW, INC.
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Well Name WI-5	Screen Interval 14.5 - 19.5							
Project CTD 71-STH2 1. Q1 04	Station Elevation GND TO	OC Immiscible Phases Present						
Project No. 1990.071E	Static Water Level (from TOC) / Time _							
Well Location Site	Average Water Level (from TOC)	5.00						
Sample Date	Reference Point	PID Readings (background) O ffm						
Sampling Personnel	Reference Elevation							
M. Ramos	Static Elevation	Notes						
	Well Depth MEAS 21:24 RPTD_	Feet of Water						
Sample ID 71-51-025	Depth of Bottom of Tubing 17.0							
Duplicate ID NA	Depth to Water (w/ Tubing in Well)	5.11						
	PURGING							
	Specific Cun	nulative						
Discharge Dissolved	1 1 1 1 2 2 2 2	e of Water PID/OVA Reading						
Rate ¹ Oxygen Eh/OR	P Temp. (μmhos/cm Turbidity Remov	ved/Purged Depth to						
Time (L/min) (mg/L) pH (mV)	(0) (1)	allons) Location Value Water ² (ft) Comments						
1342 0.3 15.7 6.52 174	18.98 24199 0.0 0.	25 5.13						
1345 0,3 7,0 6.60 113	19,17 22964 0.0 0	,5 5.13						
1348 0.3 5.0 6.64 11	19,23 22552 0.0 0	8 5.12						
1351 03 43 6.66 -13	19.32 24993 0.0	0 5.12						
1354 0.3 4,0 6.64 -33		2 5.13						
1357 0.3 3.7 6.65 -44	100	5 5,13						
1400 0.3 3.6 6.63 -43		7 5.13						
1403 0.3 3.5 663 -44	19.38 22298 0.0 2	.0 5.12						
1475 Collect Sample								
Notes: 1. Purge rate = 0.2 - 0.5 L/minute								
Drawdown shall be <0.33 foot								
SAMPLE PARAMETERS								
3× VOCs 2× Pesticide 2×	PCBs XT. Metals X). Metals IX TOC/NI-NA						
SAMPLE RATE		2.4.						
	31/M 0.34M 0.	3 HM 0,3 HM						
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute								
2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L	/minute							
Condition of Well:								
Remarks: VOCs effervesced.	D. Metal were tield titter	ed						
FIELD EQUIPMENT	3-00-	· Number of Bottles 10						
pH Meter Hydrolab	Serial Number 37995	Number of Bottles V						
Temperature Meter	Serial Number							
Turbidity Meter	Serial Number	Field Notebook Page 126						
Spec. Elec. Cond. Meter	Serial Number	Field Notebook Yage 126						
ORP Meter	Serial Number	Sample Method LOW-FLOW gab						
D.O. Meter	Serial Number 27587	Gampie inication 9141						
Interface Probe Solins	00210							
PID/OVA Mini RATE 2007 Pump Genteen	Serial Number 401006563							
	5 Mizon	Discharge Water Containerized X Yes N						

TETRATECH FW, INC	Ξ.
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MI-8

Well Name

LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

13-18

Screen Interval

	CTD 71-9	ATC I	छा।	<u> </u>	Station	Elevation	GND	TOC	Immiscible Phases Present Yes X No				
Project No. 1990.071						Vater Level (1	from TOC)	/Time 5.11-	0414	5,11- 0	<u>415 5</u>	12-0916	
Well Loc	ation <u>SI</u>	<u>e l</u>			Average	e Water Leve	l (from TO	c) <u>5.11</u>					
Sample	Date	3-30-04			Referer	nce Point	•	TOC	PID Readings (background) Oppm				
Sampling	Personnel_	B, Oale							PID Reading (TOC)				
		MiRAMA	18			levation			Notes				
		•			Well De	enth MEAS 2	2.56	RPTD	Feet of Water				
Sample	D 71-	51-026	2			of Bottom of						•	
Duplicat		SI-02			•			Vell) 5.18	· · · · · · · · · · · · · · · · · · ·				
Барлоах					Depart	O Water (W	doning in v	VOII)					
							PURGING						
								} }					
						Specific		Cumulative					
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP	Temp.	(μmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1449	0,3	12.1	6,72	122	19.35	56993	0.0	0,2			5.19		
1452	0.3	6.4	6.79	119	1846	57035	0.0	0.5			5,20		
1465	0.3	5.2	6.74	118	18.41	56972	0.0	0.8			5.19		
1458	0.3	4.6	6:78		18,42	56877	0.0	1,0			5.18		
1501	0.3	3.5	6.77		18.41		0.0	1.2			5.20		
1504	0.3	3,5	6.79			57240	0.0	1.5			5,20		
1507	0.3	3.5	6.79			57270	0.0	1.75			5.19		
	Collect	Sample	10111		* * 1 1 2	JILIV		11.1.5			7		
	Collect	Durvicete											
עבצו	Wilter	PHINCHE		<u> </u>									
				 								· · · · · · · · · · · · · · · · · · ·	
Notes:	<u>.</u>	l	l	1	<u> </u>			<u> </u>	<u>L</u>				
1. Purge rate	e = 0.2 - 0.5 L/mir												
2. Drawdow	n shall be <0.33 f	oot											
SAMPLE	PARAMETE	RS											
3×1	10Cs	2 × Pesti	icide	2× P0	BS	IXT. Me	tals	1 × 0. Metals	IXTOCIA	11-NA			
SAMPLE		<u> </u>	- 12/4								A		
0.1	HM	0.34	M	0.3	HM	0.3 1	IM	0.3 HM	0,3	JM.			
Notes:					* 11 *	<u> </u>		<u> </u>	<u> </u>	41	<u> </u>		
•	ate for VOCs anal ate for non-VOCs	•			nute								
•		A 1		0.0 0.1									
Condition	10	600d	1	N 44.8		C=.01	HI.	T-110.0					
Remarks	: <u>VOCs e</u>	Henve sce	d	u-meta	S WE	re Tield	nherea	Field Auplic	we				
FIELD E	QUIPMENT							`					
pH Meter		ydrolab			Serial N	lumber	3799	15	Number of	Bottles	20)		
•	ture Meter	,				lumber							
Turbidity						lumber	- 1						
	ec. Cond. Me	tor				lumber	1		Field Notel	nook	Page 127		
•		``' -				lumber Lumber			, ioio rioidi	<u>-</u>	J. T.		
ORP Met D.O. Met		$\overline{}$				lumber	$\overline{}$		Sample Me	ethod Ir	W-flow	aab	
Interface		Solinst			Serial N		2758	2	Jumple Me		W 11-84	7	
	- ^ ^ /					lumber	003						
	_Minirf	entech				•	AOIDO					· · · · · · · · · · · · · · · · · · ·	
Pump			001	n Ur-			+10100C	7009	Discharge	Mater Co	ntainerized	Yes No	
riiter Apr	oaratus	<u> </u>	un_	<u>u.,t></u>	MILL	<u> </u>			visularye	MAIGI CO	mainenzeu	KN 162 LT 140	



Well Nam	ne ω	1-12Ř			Screen	Interval	2.5-2	12.5	,		_		
	TO 71 - S		2110	4	Station	Flevation	GND	TOC	Immiscible			Yes X No	
Project N	.000).071E	'		Static Water Level (from TOC) / Time 2.37 - 0859 2.38 - 0400 2.39 - 090							39 - 0901	
Well Loca					Average	Water Leve	(from TO	c) 2:38	8-0400 -				
Sample [3-29-0			Referen	ce Point	TO	<u>C</u>	PID Readings (background) Uppm				
	Personnel _				Referen	ce Elevation							
Cumping		Mikhmo	8	•	Static E	levation			Notes				
					Well De	pth MEAS 2	5,70_	RPTD	Feet of Water				
Sample I	D 71-9	51-023				f Bottom of T		17,5	<u></u>			•	
) ID				Depth to	o Water (w/ 1	ubing in W	/ell)2.4 <u>(</u>	10				
				***		F	URGING						
						Specific		Cumulative	DID/OVA	Reading		İ	
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA Reading		Depth to		
	Rate ¹	Oxygen		Eh/ORP		(μmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Water ² (ft)	Comments	
Time	(L/min)	(mg/L)	pH	(mV)	(°C)	44071	0.0	0.2	Location		2.40		
1355	0.3	16.1	6.96	207	24.13		0.0	0.4		<u> </u>	2.39		
1358	0.3	6.1	698		24.20	43510	0.0	0.7			2.41		
1401	0.3	4.7	6.99		24.21 24.15	40306	0.0	1:0			2.41		
1404	0.3	4.2	7.04		24.03	44875	0.0	1,2			2.42		
1407	0.3	3.5 3.4	7.02			34322	0.0	1,5			2.41		
1410	0,3				24.05	40862	0.0	1.7		l	2.42		
1413		3.3	7.10		24.05		0.0	2.0			9.41		
1416	0.3	3.3	7.08		23.98	41093	0.0	22			2.40		
1419		Sample	1.00	100	23.10	11015	- 0.0						
1975	iollect	zumpic.		 	+								
Notes:				1			I						
	e = 0.2 - 0.5 L/mi n shall be <0.33 f												
	PARAMET												
	10Cs	2 x Pest	iride	2×6	cbs	IXT. ME	etals	11 × D. Metals	IXTOCI	NI-NA			
SAMPLE		10-1	10.1100										
0.	UM	0.34	M	0 d	3 HM	0.3	YM_	0.34M	0.3	HM_	<u> </u>		
Notes:	ate for VOCs ana	lumia = 0.1 - 0.2	I (minute										
Sample n Sample n	ate for non-VOCs	analysis = purg	e rate =	0.2 - 0.5 L /r	ninute								
Condition	of Well:	Good				<u> </u>							
Remarks	V(N)	efferes	æd	. D. M	etals	were fi	ela fitt	ered					
EIEI D E	QUIPMENT										10		
pH Mete	1.6	ydrolab			Serial	Number	379	95	Number o	f Bottles _	t0		
•	ture Meter	,				Number							
	Meter					Number					N		
•	ec. Cond. Me	,				Number			Field Note	book	Page 122		
ORP Me					Serial	Number						221	
D.O. Me		V			Serial	Number	<u> </u>		Sample M	lethod	ow-flow	ylab	
Interface		Solinst			Serial	Serial Number 27582							
PID/OV						Number	003						
Pump _		beotech				Number	A0100	0000	Die eb = ==	Moto- O		X Yes No	
Filter Ap	paratus	<u> </u>	ech	0.49	MIG	on			Discharge Water Containerized X Yes No				

	TŁ	TETRATECH FV	V, INC.
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Page		of _	
Date j	3-	22-	04_

Well Nan	ne W	1-14			Screen	Interval	4.1 - 14	1.7					
Project _		ite L.	Q1 10	4	Station	Elevation	GND	TOC	Immiscible	Phases P	resent	Yes X No	
Project N).071É	-		Static Water Level (from TOC) / Time 5.05 - 0847 5.05 - 0849								
Well Loca					Average Water Level (from TOC) 5.05								
Sample I		30-04			Referen	ce Point	TOC		A 44				
	Personnel _								A . ''				
Oamping		MiRAMO	15			levation			Notes		• • •		
		I'V I WA			Mall Da	epth MEAS	7.60	PDTO					
Samula I	D 71-	CI_ 022				ipui M⊑AS <u>T</u> of Bottom of T			1 001 01 110			•	
Duplicate		NIA			•	o Water (w/ 1						<u> </u>	
Duplicate	שו פ	אורי			Deptin	o water (w/	ubing in v	veii)					
				r		F	URGING	T	ı		1		
						Specific		Cumulative	PID/OVA	Dooding			
	Discharge	Dissolved				Conduct.		Volume of Water	FIDIOVA	Treating	Depth to		
	Rate ¹	Oxygen		Eh/ORP		(μmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Water ² (ft)	Comments	
Time	(L/min)	(mg/L)	pH	(mV)_	(°C)	21808	0.0	0.3	Location	Value	5.12	COMMITTEE	
1000	0.3		6.48					0,5			5.20		
1003	0.3	6.0	6,52		18.10	25186	0.0				5.31		
1006	0.3	4.6	6.56		18.01	26450	0.0	0.8			5.20		
1009	0.3	4.1	6.53		17.96	26447	0.0	1.0					
1012	0.3	4.0	6.48	-8	17.99	32076	0.0	1.2			5.13		
1015	0.3	3,9	6.49	-7	18.04	31594	0.0	1.5	5,17				
1018	0.3	3.8	6.49	-8	18,01	31628	0.0	1.7			5.17		
1020	Collect	Sample	<u> </u>							ļ			
			ļ								<u> </u>		
										ļ			
				<u> </u>	L				<u> </u>	<u> </u>	<u> </u>	<u> </u>	
-	e = 0.2 - 0.5 L/mi n shall be <0.33 t												
SAMPLE	PARAMETI	ERS											
3×1	10Cs	2 x Pest	icide	2×P	CBS	XT. ME	tals	1 × D. Metals	IXTOCI	NI-NA		i	
SAMPLE			 	 									
0.1		0.34	M	0.3	HM	0.31	IM	0.3 HM	0.3	HM			
2. Sample ra	ate for VOCs ana ate for non-VOCs	lysis = 0.1 - 0.2 analysis = purg	L/minute		inute					•			
Condition	of Well: <u>6</u>	Chance	<u>.</u>	Λ.	Mala D	s were	£01	Eller of					
Remarks	: <u>VOC</u> 6	THINESCE	<u> </u>	9.	HEIM	3 Wat	· uca	MINOR					
FIELD E	QUIPMENT						7-0	~ —			10		
pH Meter	н	<u>ydrolab</u>			Serial 1	Number	3/4	45	Number of	f Bottles _			
Tempera	ture Meter _				Serial N	Number			,				
Turbidity	Meter				Serial N	Number					DOAD IN		
Spec. Ele	ec. Cond. Me	ter				Number			Field Note	book	Page 125		
ORP Me	ter				Serial 1	Number					- CI-	001	
D.O. Met	ter	<u> </u>			Serial 1	Number	32C		Sample M	ethod <u>L</u>	M-Han	yıab	
Interface	Probe	Solinst				Number	2758					-	
	Minik	AE 2000			Serial I	Number	003	T					
Pump		seatech		,		Number	A0100	6563				M	
Filter Ap	paratus	Peop	ech	0.45	MICH	m			Discharge	Water Co	ontainerized	X Yes ∐ No	

											 		
Well Nan	ne(\) -	15			Screen Interval 4.4-14.4							_	
Project (70 71 - 5		2110	4	Station Elevation GND TOC Immiscible is					Phases P	resent	Yes X No 16 - 0827	
Project N).071É			Static M	Jator Level (f	mm TOC)	/Time 5.15 ~ 08	25 5	-16 - 08	326 5.	16 - 0827	
	ation Sit				Average	Water Level	l (from TO	c) 5,16	į.				
Sample I		3-29-04			Poforon	oo Doint	Ť)c	PID Readings (background) Offm				
	Personnel _								△ 84				
Sampling	Personner_	M. Ramo											
		IN I NAME	<u> </u>		Static E	levation	712	DOTO	Foot of Mo	<u></u>		.	
					Well De	pth MEAS 1	1172	RPID_AW	Notes Feet of Water				
	D 71-								<u>. </u>				
Duplicate	e ID	NIA			Depth to	o Water (w/ T	ubing in V	Vell)5.10	!				
						<u> </u>	URGING		- 41				
 		Γ				i	0.1.0						
						Cassifia						{	
	Dischause					Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		1	
	Discharge	Dissolved		Eh/ORP	Temn	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	Rate ¹	Oxygen (mg/L)	pН	1	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
Time	(L/min)	<u> </u>			25.91	18733	0,0	0.3			5.20		
1106	0,3	4.4	6.60					0.6			5.19		
1109	0.3	3,9	6.75		25.56	18709	0.0	0.9	<u> </u>		5,20		
1112	0.3	3,4	6.80		25.46	18409	0.0				5,20		
1115	0.3	3,1	6,78		25,60	18607	0.0	1.2		<u> </u>			
1118	0.3	2,9	6.78		25.55		0.0	1,5	<u> </u>	ļ	5.21		
1121	0.3		6,80	-48	25,54	18744	0.0	1.8			5,20		
1124	Well	Stable							<u> </u>				
1125	collect	Sample								<u> </u>			
Notes:		•				.,							
	e = 0.2 - 0.5 L/mii					•							
	n shall be <0.33 f												
SAMPLE	PARAMET	ERS				I		12 A A	11 - 101				
3×1	10Cs	2 × Yest	icide	2× P(obs_	IXT. ME	tals	1×0 . Metals	II X TOCK	<u>11-N4</u>	<u> </u>		
SAMPLE	RATE			· · · · · · · · · · · · · · · · · · ·			,	1 00.1	1 00		<u> </u>		
0.	1 4M	0.34	M	0.3	HM	0.31	M_	0.34M	0.3	<u>нм</u>	<u></u>		
Notes:		(unio = 0.1 0.2	t /minuto										
Sample n Sample n	ate for VOCs ana ate for non-VOCs	analysis = purg	e rate =	0.2 - 0.5 L/ m	inute								
		Good							•				
			1- 10	00 Od	N 14	atele 1	rene fire	eld fiftered.	Kun	MSIN	1SD		
Remarks	s: <u>VOC s</u> a	imple es	KAYC	seed.	PIM	eines u	or the	20 IIII	1 1401	1 (01)	12.E		
FIELD E	QUIPMENT										20		
pH Meter		ydrolab			Serial I	Number	379	95	Number of	Bottles _	30		
•	ture Meter _				Serial I	Number							
Turbidity					Serial !	Number							
	ec. Cond. Me	eter			Serial Number				Field Note	_{book} <u>ra</u>	ge 120		
ORP Me					Serial Number						V		
		-					$\overline{}$		Sample M	ethod _L	TW-flow	grab	
D.O. Me		Solinst			Serial Number 27587							<u> </u>	
Interface	MiniR					Number	003						
		Seotech				Number	A0100						
Pump		600		חשב	ME				Discharge	Water Co	ntainerized	Yes 🗌 No	
Filter Ap	paratus	- acri	$-\alpha$	<u></u>	1412	× · · · · · · ·			Discharge Water Containerized X Yes No				



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Well Nan	ne W	-16			Screen	Interval	5.4-	15.4			_	
	TD 71-5		2110	4	Station Elevation GND TOC Static Water Level (from TOC) / Time 6.31 -				Immiscible	Phases P	resent	Yes X No
Project N	0 1991).071É		·	Static W	/ater Level (fi	rom TOC)	/Time 6.37 -	0924 6	36-0	925 6	38-0926
Well Loca					Average	Water Level	(from TO	c) 6.37				
Sample I		-31-04			Referen	ce Point	TOC		PID Readings (background) 0 ppm			
	Personnel_								PID Readin			
Camping		M. Romo	· S						Notes	0 \ /2		
		1.(1.1.20.10)			Wall De	of MEAS	8.20	RPTD	Feet of Wa	ter		
Sample I	D 71-	- Cl - 01	a	1	Denth o	of Bottom of T	ubing	10.4				•
	e ID				Depth to	o Water (w/ T	ubing in V	/ell) 6.55				
					•		URGING			·		
1						Specific		Cumulative				
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	_
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1052	0.3	8.5	6.32	-77	20.13	57544	0.0	0.2			6.55	
1055	0.3	5.0	6.33	-90	20.42	57931	0.0	0.5			6.56	
1058	0.3	4.1	6.37	-87	20.56		0.0	0.7			6.56	
1101	0.3	3.9	6.36			59499	0.0	1.0			6.57	
1104	0.3	3.9			20.94		0.0	1.3			6.56	
1107	0.3	3.8	6.37			59560	0.0	1.5			6.55	
1110	Collect	Sample	10.01	, ,	71.0							
1110	wheel	Swing 12	 -	 								
-			-	 								
 												
		<u> </u>										
Notes:	L	<u> </u>	<u> </u>	1	<u></u>							
•	le = 0.2 - 0.5 L/mi n shall be <0.33 l											
	PARAMETI		<u> </u>	1 - 0	- 0	11	1.1.	11 × 0. Metals	11.746	JI_ALA	T	
	VOCs_	12 x rest	icide	1 2× P	CRR	IXT. ME	TG 13	11 V D'INGTOIS	II X (DC)	VI-IVH	J	
SAMPLE		1 071		0.7	111.	0.31	To.	0.3 HM	0,3	1.1.1	T	
Notes:	1 4M	0.34	M	1 00	HM	1 0.5	1111	1 012 - 11W	1 713	MIN		
1. Sample r	ate for VOCs ana	lysis = 0.1 - 0.2	L/minute	•								
2. Sample r	ate for non-VOCs	analysis = purg	e rate =	0.2 - 0.5 L/m	inute							
	n of Well:	600d				n	- (-0	C-II- A				
Remarks	s: <u>VOCs</u>	etterve	sced	l. A	<u>. Meta</u>	ls were	field	Diterea				
EIEI N E	QUIPMENT											
pH Mete		ydrolab			Serial I	Number	379	95	Number of	Bottles _	10	
•	ature Meter_	,				Number	1					
•	Meter	-				Number	1					
•	ec. Cond. Me	eter				Number			Field Note	book	age 129	
ORP Me		~~ 				Number					<i>V</i>	-
D.O. Me		V	,			Number	-		Sample Method LOW-FLOW Grab			
Interface		Solinst				Number	2758					
PID/OV		AE 2000			Serial	Number	003	1 1				
Pump	·	beotech			Serial	Number	A0100	6563				K7 —
. –	naratus	Gom	Och	ก. 45	MIG				Discharge	Water Co	ontainerized	Yes No

TŁ	TETRATECH	FW, INC
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Page		_ of	
Date	3-2	2-1	04

Well Nan	ne WI	-19			Screen	Interval	14-19				_	- 6-7
Project_0		îte 1, (হা 10)4	Charles Flooring CND TOC Immiscible Phases Present Yes X No							
Project N		.071E			Static Water Level (from TOC) / Time 5.62 - 0844 5.03 - 0845 5.63 - 08						63-0846	
Well Loca					Average	Water Leve	(from TO	c) 5,63		£.		
Sample I		-30-04			Referen	ce Point	TOC		PID Readin	gs (backg	round) 0	PM
Sampling	Personnel _	B. Dale			Referen	ce Elevation		/	PID Readin	g (TOC) _	Oppn	pm
		MIKEMO	18		Static E	levation			Notes			
					Well De	pth MEAS 💆	4131		Feet of Wa	ter		
Sample I		51-019			Depth o	of Bottom of T	ubing	16.5			· · · · · · · · · · · · · · · · · · ·	
Duplicate	e ID <u>71-</u>	SI-020)		Depth to	o Water (w/ 1	ubing in W	/ell) <u>4.78</u>				
PURGING												
							-					
						Specific		Cumulative	DID (O) (A	م مائم م		
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	Depth to	1
	Rate ¹	Oxygen		Eh/ORP		(µmhos/cm	Turbidity	Removed/Purged	Location	Value	Water ² (ft)	Comments
Time	(L/min)	(mg/L)	pH	(mV)	(°C)	at °C)	0.0	(Gallons)	Location	value	4.79	COMMENS
0833	0.3	14.5	6.58		18.14	20287	0.0	0.5			4.78	
0836	0.3		6.47		19.06	20639 18451	0.0	0.8			4.78	
0839	0.3	6.9	6.46		19.16	18636	0.0	1,0			4.79	
0842	0.3	6.0 5.8	6.46		19.11	18306	0.0	1.2			4.80	
0845	0.3	5.6	6.46		19.04		0,0	1,5			4.80	
0848	0.3	4.7	6.47		18.81	17519	0.0	1.75			4.80	
0854	0.3	4.7	6.46		18.86		0.0	2.0			4.79	
0857	0.3	4.7	6.46		18.95		0.0	2.2			4,80	
0900	Collect	Sample		1								
0920	Calect	FD										
Notes:	e = 0.2 - 0.5 L/mi	nute										
2. Drawdow	n shall be <0.33 t	oot										
SAMPLE	PARAMETI	ERS									,	
	10Cs	2 × Pest	icide	2×P	CBS	XT. ME	etals	11×0 . Metals	11xTOC/	<u> </u>	<u> </u>	
SAMPLE								1 02.1	1 2 2	11.		
0.	I YM	0.34	M	0.3	HM	0.3	4M	0.34M	0.5	HM_	<u> </u>	
Notes:	ate for VOCs ana	lysis = 0.1 - 0.2	L/minute	e								
2. Sample r	ate for non-VOCs	analysis = purg	ge rate =	0.2 - 0.5 L/m	inute							
Conditio	n of Well:	500d	_		1-0) f-f-ff,		Acal	10		
Remarks	s: <u>VOC\$</u>	efferres	red	· 0.M	etals	were fiel	dotte	red. Field	MILLE	ye		
FIELD E	QUIPMENT						7-0				20	
pH Mete		ydrolab	,		Serial	Number	379	45	Number of	Bottles _	\mathcal{W}	
Temperature Meter Serial Number												
	Turbidity Meter Serial Number											
Spec. El	ec. Cond. Me	eter				Number			Field Note	DOOK	inge in	
ORP Me	ter					Number	-1		Sample M	ethod 11	ow-flow	arab
D.O. Me		Collact				Number	2758	12	Jampie W		vw_1	0
Interface		Solinst AE 2000				Number Number	003					
	4 Minir	senteen				Number	A0100					
Pump Filter An	paratus	660		D.45	MIC				Discharge	Water Co	ontainerized	Yes No
i iiici Ap						-						

TETRATECH FW.IN	
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							1/-	^				
Well Nan	ne <u>WI-2</u>				Screen	Interval	L15-1	10		Di D	Г	
Project _C	70 71-5	itel, c	<u> </u>	4_	Station Elevation GND TOC Immiscible Phases Present Static Water Level (from TOC) / Time 3.45 - 0904 3.46 - 0905 3.45 - 0906							
Project N).071É			Static W	/ater Level (fi	rom TOC)	Time 3,45 - 07	<u> </u>	70-01	371	3-0100
Well Loca					Average	Water Level	(from TO	C) <u> </u>				
Sample I		-29-04				ce Point			PID Readin	gs (backg	round) Opp	
Sampling	Personnel _	B. Ogle			Referen	ce Elevation					Oppn	
		MIRDMO	8		Static E	levation	1 7-		Notes			
						pth MEAS _			Feet of Wa	ter		
Sample I	D 71-:	51-024			Depth o	f Bottom of T	ubing	4.8			 	
Duplicate ID Depth to Water (w/ Tubing in Well) 3.45												
PURGING												
	<u> </u>											
						Specific		Cumulative				
	Discharge	Dia a abus d				Conduct.		Volume of Water	PID/OVA	Reading		
1	Discharge Rate ¹	Dissolved Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged	-		Depth to	
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	" at ⁰C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1445	0.3		6.65		23.39	16677	0.0	0.3			3,45	
1448	0.3	5.8	6.70	80	23,46	19423	0,0	0.5			3.45	
1451	0.3	415	6.74	80	23.47	22095	0.0	0.8			3.45	
1454	0.3	3.7	6.78	15	23,40		0,0	1.1			3.45	
1457	0.3	2.9	6.87	75	22.81	18050	0.0	1.4			3.45	
1500	0,3	2.9	6.92	75	23.65		0.0	1.7			3.45	
	0,3	2.8	6.94	74	23,60	17943	0.0	2.0			3.45	
1503	0.3	2.7	6.94	74	23.71	17301	0.0	2.2			344	
1509	0.3	2.7	696		23.79		0.0	2.4			3,45	
1515	- 6 /6	Samples		122	1	11111						
1912	Louen	mylms	1-									
Notes:	<u> </u>	J	1	1			<u></u>					
	te ≈ 0.2 - 0.5 L/mi											
	vn shall be <0.33											
	E PARAMET			1		11. 05.04	. 1 (-	11 × D. Metals	I ver	ALA. IL		
	VOCs	2 × Pest	icide	2×P	CRR	XT. M	etals	II > D'INGTOIS	II X TIV-L	VI-IVH	<u> </u>	
SAMPL		1 675	1.4	1 0	7 1 1	0.3	UM	0.3 HM	0,3	UM		
Notes:	14M	0.31	M	1 0 (3	3 HM	1 0.5	41M	1 019-114	1 VIS	-	1	
1 Samole	rate for VOCs and	alysis = 0.1 - 0.2	L/minute	•								
2. Sample	rate for non-VOC	s analysis = pur	ge rate =	0.2 - 0.5 L/n	ninute							
Conditio	on of Well:	(2000)	- 7	^		- 1	<u> </u>	COL CIL				
Remark	s: <u>VOCs</u>	slightly	ef	evese	red.	DIME	als w	re vera vito	Ma			
		v t)									
	EQUIPMENT	Indolah			Serial	Number	379	195	Number o	f Bottles _	10	
pH Meter Hydro lab Serial Number 3 745 Number of Bottles TO Temperature Meter Serial Number Serial Number Hydro lab Serial Nu												
•	y Meter	1				Number					-A	
	iec. Cond. M					Number			Field Note	ebook	tage 12	<u> </u>
•	eter	i	4			Number					71.	22/
D.O. M		V				Number	-	· · · · · · · · · · · · · · · · · · ·	Sample M	lethod _L	om-Han	yrab
	e Probe	Solinst	,			Number	2758					
	A MINIR	AE 2000			Serial	Number	003					
Pump	v. trin	benteck	1			Number	ADIOC	16563				M
	nnaratus		pch	D.44	MIG				Discharge	e Water C	ontainerized	Yes No

TŁ	TETRATECH FW, INC.
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Page		of _	
Date	3-	22-	04

							.,						
Well Nam	ie W	23			Screen	Interval	NA		□ \$7				
Project C	TO 71-5	THE L. (2110	4	Station I	Elevation	GND	TOC	Immiscible Phases Present Yes No				
Project N		071E	,		Static W	ater Level (fi	rom TOC)		<u> 1</u>	164- 05	350 <u>410</u>	3-0857	
Well Loca	1	9			Average	Water Level	(from TO	c) <u>4.64</u>		*-	<u> </u>		
Sample [19-04			Referen	ce Point	TOC		PID Readin	gs (backg	A	ppn	
	Personnel _	B, Oale							PID Readin	g (TOC) _	O ppm		
Camping	_	MIRDMO	8		Static E	levation							
					Well De	pth MEAS	6.0		Feet of Wa	ter			
Sample I	D 71-S	-021			Depth o	f Bottom of T	ubing	2·70				·	
Duplicate ID PlA Depth to Water (w/ Tubing in Well) 4.60													
PURGING													
					T		Ottomio						
						Specific		Cumulative					
	Disabarga					Conduct.		Volume of Water	PID/OVA	Reading			
	Discharge Rate ¹	Dissolved Oxygen		EN/ORE	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	" at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1248	0.2		6,67	150	25.61	35356	0,0	0.2			4.64		
1251	0:15	6.9	670	145	25.34	34060	0.0	0.35			4.72		
1254	0.15	4.7	6.75	144	25.19	33682	0.0	0.5			477		
1257	Oil	3.5	6.79	145	25.13	24477	0.0	0.6			4.82		
1300	0.1	3,2	6.80	147	25,02	21769	0.0	0.7		·	4.91		
1303	0.1	2.9	6.86	152	24.99	21233	0.0	0.8			5.01		
1306	0.1	2.8	6.89	155	24.85	21504	0.0	0.9			5.12		
1309	0.1	2.7	6.89	152	24.81	21179	0.0	1.0			5.20		
1312	0.1	2.7	6.91	152		21099	0.0	14			5,34		
1315	Collect	Sample	1										
1310	30,1001							<u> </u>	<u> </u>				
Notes:													
	e = 0.2 - 0.5 L/mi n.shall be <0.33 t												
	PARAMETI												
			icide	2×F	rac	IXT. M	otals	1 × D. Metals	IXTOCI	NI-NA			
SAMPLI	VOCS	12 ~ 1631	MAC	1.201	003	11 G (1-10)	- 1011						
	IHM	0.34	iM	T n.a	3 HM	0.3	UM	0.3 HM	0.3	HM			
Notes:	· · · · · · · · · · · · · · · · · · ·				× 11-4	1				•			
1. Sample r	ate for VOCs and ate for non-VOCs	alysis = 0.1 - 0.2 analysis = num	L/minute ne rate =	e 0.2 - 0.5 L/r	minute								
						in tren	ch						
Conditio	n of Well: s: Very	Adv. d.d.	700	a da	adail	P COMIN	P 01 -	NO SAMPLE	S RETI	TINED			
Remark	s:very	Muhay	<u> </u>	in ary	MALTIT	Comp		1.1 - 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1					
FIELD E	QUIPMENT						770	0-		f Dallas	O		
pH Mete	r <u>H</u>	ydrolab				Number	379	<u>45</u>	Number o	r Bottles _			
Tempera	ature Meter _					Number							
Turbidity	Meter					Number			Field Note	hook	Pa-121		
Spec. E	lec. Cond. Me	eter				Number			FIEIU NOIG	.DOOK	-1-1-1-1		
ORP Me	eter					Number		,	Sample M	lethod [1	ow-flow	arab	
D.O. Me		Callact	 .			Number	2758	22	Sample IV	ou <u></u> _	WW 11-PG	0	
Interfac	e Probe	Solinst		····		Number	003						
	A MINIR	He fool	1			Number Number	ADIOO						
Pump _		George George		n 4	Serial MY				Discharge	Water Co	ontainerized	X Yes No	
Filter Ar	naratus	(47°U)	וועאו	UIL	<u> </u>	w.			•				



Page	Ì	of	
Date	3-	22.	-04

Well Nam	ie W-	2년			Screen	Interval	6-1	<u> </u>			_	¬ Б 7
Project	CTO 71-	stte 1 -	QI	104	Station I	Elevation	GND	тос	Immiscible	Phases P	resent	Yes No 05 - 0921
Project No	. 1990	0.071E			Static Water Level (from TOC) / Time 6.64 - 0919 6.65 - 0920 6.65 - 092 Average Water Level (from TOC) 6.65							05 -0421
Well Loca	ition <u>Si</u>	te 1										
Sample [Date <u>3 - 3</u>	1-04			Referen	ce Point	TOC		PID Readin	gs (backg	round) Of	fm
Sampling	Personnel _				Referen	ce Elevation			PID Readin	g (TOC) _	OHM	
		gle										
	M.	Ramos							Feet of Wa	ter		
Sample I	D 71-SI	-028			Depth o	f Bottom of T	ubing	11				
Duplicate	e ID	NIA			Depth to	o Water (w/ T	ubing in V	/ell) <u>6.72</u>				
				,		PURGING						
						Specific		Cumulative				
	Discharge	Dissolved	1			Conduct.		Volume of Water	PID/OVA	Reading		İ
	Rate ¹	Oxygen		Eh/ORP			Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1002	0.3	24,7	6.41		18.92	51946	0.0	0.2			6.72	
1005	0.3	10.9	6.45	-47	19.23		0.0	0.5			6.71	
1008	0.3	6.5	6,45	-49	19.75		0.0	0.7			6.71	
1011	0.3	5.2	6.42	-43	20.19		0.0	1.0			6.73	
1014	0.3	5.0	6.41		20.22		0.0	1.3			6.72	
1017	0.3	4.9	6.40	-40	20.21	45306	0.0	1.6			6.73	
1020	Collect	Samples								ļ		
					ļ			ļ		ļ	<u> </u>	
			<u> </u>									
				<u> </u>								
<u></u>			<u> </u>	<u> </u>				<u></u>				
-	e = 0.2 - 0.5 L/mi n shall be <0.33										,	
SAMPLE	PARAMETI	ERS									_	
3×V		2× Pest	ride	12x P	CBS	XTA	Netals	X D. Metals	1×TOC	Ni-Na		
SAMPLE		100	VIV.	1								
0.	I LIM	0.3 L	IM	0.3	HM	0.3 4	M	0.3 4m	0.3	1/m	<u></u>	
Notes:	ate for VOCs and						 -					
Sample i Sample i	ate for non-VOCs	s analysis = purg	ge rate =	0.2 - 0.5 L/m	ninute							
Conditio	n of Well:	Good						. 0				
	s: <u>VOCs</u>	efferres	ced	- 0.1	Netal	were .	held f	Hered				
FIELD E	QUIPMENT	D	ſ				2 2 4	_			100	
pH Mete	r	thy drole	15		Serial I	Number	3799	5	Number of	f Bottles _	10	
Tempera	ature Meter _				Serial I	Number						
Turbidity	Meter					Number				Ο.	100 120	
Spec. E	ec. Cond. Me	eter		·		Number			Field Note	роок _ т и	ye 120	
ORP Me	eter					Number				-th c - 1	mi-Hm	<i>t</i>
D.O. Me	ter	<u> </u>				Number	2	3	Sample M	ethod _ \bullet	NM-I TOM	-
Interface	A 1 \ 6/1	Solins	st_	<u>.</u>		Number	2758					
PID/OV		AE Zoor				Number	0032					_
Pump _		rech	1.0	Bile			401006	767	Discharge	Water Co	ontainerized	Yes No
Filter Ap	paratus	Geof	eth	0.45	MICH	UN			Discharge	vvaler CC	A ROBINETIZED	۱۰۰۰ سات، معر





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Well Nan	ne W1-1				Screen	Interval 15-	25				_			
	CTO 86-Site	1, 2nd Qua	rter		Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 3.22/1109 3.22/1109									
	o. <u>1990.0</u>				Static V	Vater Level (fr	om TOC) /	Time 3.22/1108	3.	22/1109	3.2	2/11/0		
-	ation <u>Moffett</u>				Average	Water Level	(from TOC	3,22						
	Date 5/2				Referen	ce Point	oc		PID Readin	gs (backg	round) <u>Opo</u>	<i>v</i>		
	Personnel		ON			ce Elevation			PID Readin	g (TOC) <u>(</u>	Oppur "			
		M.RAMOS			Static E	levation			Notes					
					Well De	pth MEAS 2	5.90 F	RPTD	Feet of Wa	ter				
Sample	ID 86-S1-0	01				Depth of Bottom of Tubing 20								
1 '	e ID <u>86-S1-0</u>				•	Depth to Water (w/ Tubing in Well) _3,2								
					•	PURGING								
			Γ	r	1		Citolite							
					1	Specific	Cumulative	Cumulative						
l	Discharge	Dissolved]	Conduct. Volume			PID/OVA	Reading				
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to			
Time	(L/min)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments		
12195	.4	2.75	639	171	25.26	74.701	21.1	.2			3.26			
1248	.4	0.78	6.41	184		44582	19.6	,4			3.28			
12.51	.4	057	6.45	185	24.73		13. F	16			332			
1254	.4	0.50	6.45	171	2495	43039	11,4	18			3.35			
1257	4	0.47	647	159	25.03	43057	12.8	1			3,35			
1300	14	0.42		116	24.99			1.2			3.36			
1305	Collect	Sample			1									
1320	Collect	Field &	Jupli	tato										
	10000		1											
Notes:														
•	te = 0.2 - 0.5 L/m wn shall be <0.33													
	E PARAMET	Yx Svo	. k	IU D	est	14x PCE	214	2, D, MtLS	71. C.	Macc	T			
6x V	E RATE	19x 200	رح	17x 10	251	1/3/ 100	ر د	10,0,1100	I WY 121	ria c				
	LIM	.4		1,4)	. 4		. 4	.4					
Notes:	LIM	1 .7		1 19		1 . 7		/	<u>' / </u>					
	rate for VOCs an													
	rate for non-VOC		ge rate =	= 0.2 - 0.5 L/i	minute									
Conditio	n of Well: <u>G</u>	<u>000</u>												
Remark	s:							· · · · · · · · · · · · · · · · · · ·						
FIELD E	QUIPMENT													
pH Mete	er	HYDROLA	В		Serial I	Number#	38520		Number of	Bottles _				
Tempera	ature Meter _	HYDROLA	AB		Serial f		38520		 					
Turbidity	Meter	HYDRO	LAB		Serial I		38520			0	2			
Spec. E	lec. Cond. Me		OLAB				38520		Field Note	book Tg	ري			
ORP M		YDROLAB_					38520		0	-44	u Flore			
D.O. Me		YDROLAB					38520		Sample M	etnod <u>Lov</u>	W LIOM			
Interfac	e Probe <u>SC</u>						25582				<u> </u>			
PID/OV		NI-RAE	*				00320		·					
Pump _		EO-PUMP		<u>.</u>	Serial	Number#	01689		Dischar	Motor Co	ntainerized	Y Ves D No		
Filter Ar	oparatus (3EO-,45 MIC	CRON						Discharge Water Containerized X Yes No					



Filter Apparatus ____GEO-.45 MICRON

Page	1 of	1
Data	E/24/04	

Vell Nam	e W1-5				Screen I	nterval 14.	5-19.5					
	CTO 86-Site	1 2nd Ouar	ter		Station Flevation GND TOC Immiscible Phases Present Yes X No							
	o. <u>1990.08</u>				Static W	later Level (fr	 om TOC) /	Time 5,29/121	3 <u>513</u>	9/1214	5,29	1215
-					Average	Water Level	(from TOC	5.29				<u> </u>
	tion Moffett					ce PointT		/	PID Reading	gs (backgr	round) <u>CAA</u>	m
	Date		ON .		Deferen	oo Elouation			PID Reading	(TOC)	Oppin	
ampling	Personnel		UN_						Notes		11	
		M.RAMOS			Static E	levation	1. 72) -	RPTD	East of Wat	or ·		
									1 CCL OI TTUL	~- <u></u>		
	D <u>86-S1-0</u>				Depth o	f Bottom of T	ubing13	ell) <u>5 ,33</u>				
uplicate	e ID <u>N/A</u> -C	OLLECT M	S/MSD		Depth to	Water (w/ I	ubing in vv	eii) <u>フ・ソノ</u>				
						F	PURGING				1	
								·				
						Specific		Cumulative	PID/OVA	Pooding	1	
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	Donth to	
	Rate ¹	Oxygen		Eh/ORP				Removed/Purged		Makes	Depth to Water ² (ft)	Comments
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value		Comments
843	14	0.95	4.91	-2		54907	2.3	,2			5.34	
846	14	056	691			54/89	211	. 4			5,39	
849	,4	0.52	639	-26	22.96	53593	1.9	16			5.44	
452	, ý	0.46	6588	-28	23:01	53332	1.7	.8			5.44	
855	, 4	0.44	6.88		2321	53171	19	/			5,45	
895	ij	0.40	6.86				1.4	1,2	<u> </u>		5.40	
7	, 4	0.38	6.85	232		53359	1.2	1.4			5,48	
901			<u> </u>		1	7,22.7						
9410	Collect	Sample	┼		 		<u> </u>					
	 	-	-	 	 							
			+	 	 							
lotes:	<u> </u>	<u> </u>		<u> </u>		<u> </u>	<u> </u>	<u></u>				
	te = 0.2 - 0.5 L/m	inute										
2. Drawdov	wn shall be <0.33	foot										
SAMPL	E PARAMET	ERS .						1 1 1 11 11 1	17 X	44 1		
3x \	100'5	2x 51	10c's	2x1	est.	2x PCR	5	1x D MHS	N D	wrany		
	E RATE											
, 1	Llm	24		14		14		.4	,4		<u> </u>	
Notes:												
. Sample	rate for VOCs ar rate for non-VOC	ialysis = 0.1 - 0. `e analysis = nii	2 L/minu iroe rate⊹	te = 0.2 - 0.5 L/	minute							
		_ A										
	n of Well: _(,										
Remark	s: <u>VOC</u>	samples	PITE	<u>vese</u>	4							
FIELD I	QUIPMENT	•									22	
pH Mete		HYDROLA	\B		Serial	Number	#38520		Number o	r Bottles _	33	
•	ature Meter	HYDROL	AB		Serial	Number	¥38520					
•	y Meter	HYDRO			Serial	Numberi	#38520			<u>n</u>	11	
				3	Serial	Number	#38520		Field Note	ebook <u>13</u>	11	
Spec. Elec. Cond. Meter <u>HYDROLAB</u> ORP Meter <u>HYDROLAB</u>					Serial	Numberi	#38520					
D.O. M		YDROLAB					#38520		Sample M	lethod <u>Lo</u>	w Flow	
	e Probe <u>S</u>						#25582					
		INI-RAE					#00320					
PID/O\		EO-PUMP					#01689			 ;		
Pump_		CEO 45 MI	0001						Discharge	e Water Co	ontainerized	X Yes



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	···												
Well Nam	ne <u>W1-8</u>				Screen Interval 13-18								
Project _	CTO 86-Site	1, 2nd Quar	ter		Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 5.58/1219 5.38/1219 5.38/1220								
Project No	o. <u>1990.0</u> 8	36E			Static V	/ater Level (fr	om TOC) /	Time 5.38/1215	<u> 513</u>	8/1219	<u> </u>	3/1220	_
Well Loca	tion <u>Moffett</u>	Site 1			Average	Water Level	(from TOC	<u>5.38</u>					
Sample (Date 5	26 04			Referen	ce PointT	ОС				round) <u>O</u> 🕰)u-	
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Reading	g (TOC) _	DAPW		
		M.RAMOS			Static E	levation			Notes		<u>''</u>		
					Well De	pth MEAS 2	2.64 F	RPTD	Feet of Wat	er			
Sample I	D 86-S1-0°	11			Denth o	enth of Bottom of Tubing 15.5							
_	e ID N/A				Depth to	Depth to Water (w/ Tubing in Well) 5.40							
			-				PURGING						
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA Reading				
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Commen	ts
12 25	.9	1.70	4.96	305		50429	3.0	12			5.43		
1228	.4	0.80	1.94	3/9		50575	3,8	.4			5,48		
1231	1	0.60	692	334		50442	219	.6			5,53		
1234	ij	0.45	(93	341	24.80	4	26	18			5,55		
1237	7,4	0.43				51715	2.1	1			5.56		
1740	Collect	 	_	110	1	71442							
1790	10:11901	SUMM	一	 	 		<u> </u>						
			 		 								
 		 	╁──		l		 						
			-				 	<u> </u>					
			├	 									
Notes:	<u> </u>	<u> </u>	<u> </u>	l	<u> </u>	<u> </u>	L	<u> </u>		1	<u>. </u>		
1. Purge ra	te = 0.2 - 0.5 L/m												
	vn shall be <0.33												
	PARAMET			1 2 7		14 4.4	~-	1) 3 44 / 6	Ι ι λ «	14. /			
3, V		2x Svo	c's	2, 6	bsf	1x PCE	35	1x D. Melak	18 D-1	MORON	<u> </u>	<u> </u>	
SAMPLI	ERAIE	.4				,4		,4	.4				
Notes:		1 67				1. <u> </u>		1	<u> </u>				
1. Sample	rate for VOCs an	alysis = 0.1 - 0.2	2 Uminu	te									
	rate for non-VOC		ge rate =	= 0.2 - 0.5 L/	minute								
Condition	n of Well: 🕜	ω d .	-	A									
Remarks	s: <u>VOL So</u>	imples ef	ferve	*Xed									
FIELD E	QUIPMENT	•											
pH Mete	r	HYDROLA	В	<u> </u>	Serial I		38520		Number of	Bottles _	11		-
Tempera	ature Meter	HYDROLA	<u> </u>		Serial 1		38520						-
Turbidity	/ Meter	HYDRO	LAB	_	Serial	Number#	38520		-	- 0	1:1		
Spec. E	lec. Cond. Me	eter <u>HYDR</u>	OLAB		Serial	Number#	38520		Field Notel	000k <u>14</u>	12		
•		YDROLAB			Serial	Number#	38520						
D.O. Me	eterH	YDROLAB			Serial	Number#	38520		Sample M	ethod <u>Lov</u>	w Flow		•
Interface	e ProbeSC	LINST			Serial	Number <u>#</u>	25582						
		NI-RAE			Serial	Number <u>#</u>	00320						
Pump_	G	EO-PUMP	-		Serial	Numberf	01689						1
		250 45 MIC	DON						Discharge	Water Co	ntainerized	X Yes	No



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		·												
Well Nan	Well Name W1-12R Project CTO 86-Site 1, 2nd Quarter					Screen Interval 15-25								
Project _	CTO 86-Site	1, 2nd Qua	rter			Elevation			Immiscible			_ Yes No		
•	o. <u>1990.0</u>							Time 2.40/12	03 20	10/1203	<u> </u>	10/1203		
	tion <u>Moffett</u>				_	Water Level								
Sample [Date	504			Referen	ice Point <u>T</u>	oc				round) <u>Ορ</u> Δα	<u>~</u>		
Sampling	Personnel _	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC) _	<u> Ορρω'</u>			
		M.RAMOS			Static Elevation				Notes		1.			
					Well De	pth MEAS2	<i>5.66</i> F	RPTD	Feet of Wa	ter				
Sample I	D <u>86-S1-0</u>	08			Depth o	f Bottom of T	ubing20							
Duplicate	ID N/A				Depth to Water (w/ Tubing in Well) 2.72									
		T			r		PURGING							
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA Reading					
Time	Rate ¹ (L/min)	Oxygen (mg/L)	рН	Eh/ORP (mV)	Temp. (°C)	(μmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Depth to Water ² (ft)	Comments		
1317	٠,4	420	6.66	187	2238	51346	45.4	12			2.74			
1320	iÝ	94	666	187	1215	51727	99.5	,4			2.74			
1323	, 4	0.65	6.65	180	21.73	50670	FO.5	16			2.74			
1326	.4	13.61	667	178	2158	50701	56.5	8			2.74			
1329	14	056	667	179	2176	50048	4815	-/			2.74			
1331	, y	055	1.66	180	2137	53 308	47.4	1.2			2.74			
1335	,y	1.56		182	21,26	52604		1.4			3.H			
1340	Collect	Sample				7								
		7												
						,						·		
2. Drawdow	e = 0.2 - 0.5 L/mi n shall be <0.33	foot												
	PARAMETE		.12	<u> Ι. Α. Λ.</u>		A N S		1 3	1 2 4	4		1		
3. VE		12, SVX	<u> </u>	2, Pe	ST-	2. PCB	5	1. D. MHS	1x DO N	rex.				
, 1	las	,4			4	.4		,4	. 1/					
2. Sample ra	ate for VOCs and ate for non-VOCs of Well:	s analysis = puro	ge rate =		ninute									
	QUIPMENT	•												
pH Meter		HYDROLAE			Serial N		38520		Number of	Bottles	11			
-	ture Meter				Serial N		38520							
Turbidity		HYDROL			Serial N		38520			Λς.	d			
	c. Cond. Met		OLAB		Serial N		38520		Field Noteb	оок <u>т</u>	2			
ORP Met		DROLAB_			Serial N		38520		0		. Fla			
D.O. Met		DROLAB_	-		Serial N		38520		Sample Me	thod <u>Low</u>	Flow			
	Probe SOI				Serial N		25582							
PID/OVA		NI-RAE			Serial N		00320							
Pump		O-PUMP	DO::		Serial N	iumber <u>#</u>	01689		Discharge	Mater Con	tainerized	X Yes No		
Filter App	oaratus G	EO45 MIC	KON						Discharge '	vvaler cor	namenzeu	V 1 169 140		



Page	1 of	_1
Date _	5/24/04	

Well Name W1-14	Screen Interval 4.1-14.1								
Project CTO 86-Site 1, 2nd Quarter	Station Elevation GND TOC Immiscible Phases Present Yes \[\int \ No								
Project No. <u>1990,086E</u>	Static Water Level (from TOC) / Time 5.46 / 1145	5.46/1146 5,46/1147							
Well Location Moffett- Site 1	Average Water Level (from TOC) 5.44								
Sample Date	Reference Point TOC	PID Readings (background) Unp							
Sampling Personnel D. HARRISON	Reference Elevation	PID Reading (TOC) Oppur							
M.RAMOS		Notes							
MITAWOS		Feet of Water							
0I- ID									
Sample ID <u>86-S1-006</u>	Depth of Bottom of Tubing 9.1								
Duplicate ID <u>86-S1-007</u>	Depth to Water (w/ Tubing in Well) ≤.48								
· · · · · · · · · · · · · · · · · · ·	PURGING								
Distance of the second	Specific Cumulative	PID/OVA Reading							
Discharge Dissolved	Conduct. Volume of Water	Depth to							
	Temp. (µmhos/cm Turbidity Removed/Purged								
Time (L/min) (mg/L) pH (mV)	(°C) at °C) (NTU) (Gallons)								
057 1 113 671-22	23.98 50 926 4.9 12	5,55							
1100 .4 101 6.76-24	2365 50682 4.4 4	5.59							
1103 ,4 0.51 676 -24	23.55 51507 6.1 .6	5.167							
1106 14 011 674 28	23.55 52387 6.6 .8.	5,66							
1109 4 041 670-7	2358 52771 5.8 1	5,48							
11/2 ,4 0,39 671 -0	2356 52978 6.8 1,2	5,71							
1115 Collect Sample									
Notes: 1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot									
SAMPLE PARAMETERS									
	est. 4x ALB'S 2x D. MHS	2 A Mars							
SAMPLE RATE	$\frac{1}{25} \cdot \frac{1}{1} \cdot 1$	XX CITIETE							
	1.4	, 4							
\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1 17 1 17	, 9							
1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute 4. Sample rate for NOCs analysis = purge rate = 0.2 - 0.5 L/minute 4. Sample rate for VOCs analysis = purge rate = 0.2 - 0.5 L/minute 4. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute	minute								
Condition of Well: Goa									
Remarks: VOC Samples efferve seed									
FIELD EQUIPMENT									
pH Meter HYDROLAB	Serial Number #38520	Number of Bottles 22							
Temperature Meter <u>HYDROLAB</u>	Serial Number #38520								
Turbidity Meter HYDROLAB	Serial Number #38520								
Spec. Elec. Cond. Meter HYDROLAB	Serial Number #38520	Field Notebook <u>R</u> . 7							
ORP Meter HYDROLAB	Serial Number #38520	-							
D.O. Meter HYDROLAB	Serial Number #38520	Sample Method <u>Low Flow</u>							
Interface Probe SOLINST	Serial Number #25582								
PID/OVA MINI-RAE	Serial Number #00320								
Pump <u>GEO-PUMP</u>	Serial Number #01689								
Filter Apparatus GEO-,45 MICRON		Discharge Water Containerized X Yes No							



Page _	_1_	_ of _	1
5 .4.		10.4	

Well Nan					Screen Interval 4.4-14.4 Station Elevation GND TOC, Immiscible Phases Present Yes X No								
	CTO 86-Site		rter		Station I	Elevation	GND_	= 100 = 711	u ais	Thases FI	- 11 ee		
=	o. <u>1990.0</u>				Static W	/ater Level (fr	om IOC)/	Time 4,55/111	1 10	13/1113	7133	/ / / / / / / / / / / / / / / / / / / /	
	tion <u>Moffett</u>				_	Water Level	=		PID Readings (background) OAA				
	Date <u>5/2</u>												
Sampling	Personnel	=	ON_			ce Elevation					Oppm		
		M.RAMOS				levation			Notes		<u> </u>		
									Feet of Wat	er			
	D <u>86-S1-0</u>	03		<u> </u>		Depth of Bottom of Tubing 9.4							
Duplicat	e ID <u>N/A</u>				Depth to	Depth to Water (w/ Tubing in Well) 4,55							
						1	PURGING						
						Specific		Cumulative	515/51/4			I	
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP		l " _		Removed/Purged			Depth to	0	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1350	.45	1.49	6.49		27.01			.2_			4,54		
1353	.45	0.99	655	-35			3,7	.5			4.59		
1356	,45	297	6.72	-68		33355	9.9	.7			4.62		
1359	.45	0.84	6.72	-93	25,29		4,7	٠ لا			4.64		
1402	.45	0.68	662	-90	25.03	38302	511	1			4.71		
1405	.45	0.62	662	-110	25.9	48971	311	1.3			4,72		
14/2	Collect	Samo											
		/											
									Ĺ				
]		
Notes:													
_	te = 0.2 - 0.5 L/m vn shall be <0.33												
CAMPLE	: DADAMETI	EDC											
	PARAMETI		·Y-	2, P	15.05	2x SV	٠,٤	1x D. Metak	1/4 N	Max	T		
3, VC		Jx Pes	>1	ldx t	<u>CR2</u>	MX 2VC	JC 3	IX Darrelais	1/X <i>U</i> . 1	· PV C.	·		
SAMPLI		let.	1 4	1 (1)	-11.0	.45	11.	.45L/m	451	Ma			
Notes:	Um.	,45L	Jun	1775	syan	1 ,42	<u> </u>	1 .430/14	1 4700	-70C	L		
1. Sample	rate for VOCs and												
2. Sample	rate for non-VOC	s analysis = pur l	ge rate =	0.2 - 0.5 L/ı	minute								
Conditio	n of Well: \underline{G}	cod,											
Remarks	s: <u>VOC S</u>	amples	ef	terves	ved.								
FIELD E	QUIPMENT	ı											
pH Mete		HYDROLAI	В		Serial I	Number#	38520		Number of	Bottles _	11		
•	ature Meter	HYDROLA			Serial I	Number#	38520						
Turbidity	_	HYDRO			Serial I	Number#	38520				- INTI		
	lec. Cond. Me						38520		Field Note	book <u>13</u>	3+4-4	+5	
ORP Me		YDROLAB					38520						
D.O. Me		DROLAB					38520		Sample M	ethod <u>Lov</u>	v Flow		
	Probe SO						25582						
PID/OV		NI-RAE					00320	··					
Pump_		EO-PUMP					101689						
		EO- 45 MIC	RON						Discharge	Water Co	ntainerized	X Yes No	



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-		
Date	5/24/04	

										-	
	/1-16				interval <u>5.4</u>						¬
ProjectCTO 86-		<u>irter</u>						Immiscible			yes ☑ No
Project No199				Static V	Vater Level (fi	rom TOC) /	Time 9.45/122	8 4.9	15/122	9 9,43	7/1258
Well Location Mo					Water Level						
Sample Date 5	26 04			Referen	ice Point <u>T</u>	OC	·	PID Readin	gs (backg	round) Opp	المر
Sampling Personne	D. HARRIS	SON		Referen	ce Elevation	 		PID Readin	g (TOC) _	Oprin'	
	M.RAMOS				levation			Notes		<u> </u>	
				Well De	epth MEAS 💆	8,21	RPTD	Feet of Wa	ter		
Sample ID <u>86-S</u>	1-013				f Bottom of T						
Duplicate ID <u>N/A</u>		 		Depth to	o Water (w/ T	ubing in W	'ell) <u>4,43</u>				
					<u> </u>	PURGING					
	- I	T	<u> </u>			- Citolite		[l I	
					Specific		Compositativa			1	
Dischar	ge Dissolved				Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
Rate ¹	Eh/ORP	Temp.		Turbidity	Removed/Purged			Depth to			
Time (L/min	,3	рH	(mV)	(°C)	"at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1359 .4	1.03	6.64	62	2422		6:5	,2			9.46	
1402 14	0.49	6.59	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	2361	58871	2.8	,4			9.51	
1405 ,4	0.43	6.60	47	2324	60581	2.0	.6		*	9.53	
1408 4	0 44	6.60	 	23 05	61021	21/	.8			9,54	
1411 4	0.37	6.61		22.80	61415	1.9	1			9.56	
145 Coller		7,0,			0000		,				
110 0000	1 200										
		†									
		 									
		1									
		1				<u> </u>					
Notes:		<u> </u>	J	1		<u> </u>	<u> </u>	·····	· <u> </u>	1	
 Purge rate = 0.2 - 0.5 Drawdown shall be < 											
SAMPLE PARAM		11.	10 0		14 45	·	1 6	1. 3		Γ	
3x VOC'5	2x SVC	<u>X/5</u>	2x Ac	ST.	2x AB	<u>s</u>	1x D.MHS	IX D.	Merch	<u> </u>	
SAMPLE RATE	1 4		·		T			· //	/	1	
Notes:	.4		1,4		, 4		.4	14			
Sample rate for VOC	s analysis = 0.1 - 0.:	2 ∐minut	æ								
2. Sample rate for non-	/OCs analysis = pu	rge rate =	0.2 - 0.5 L/r	ninute							
Condition of Well:	Cox										
Remarks: VOL		Her	resided								
	1-	-	•								
FIELD EQUIPMEN		D		Serial N	lumbor #	38520		Number of	Rottles	11	
pH Meter	HYDROLA					38520		realition of	Dotaco	'	
Temperature Meter Turbidity Meter						38520 38520	•				
Spec. Elec. Cond.						38520 38520		Field Notel	pook Pa	14	
•	HYDROLAB	OLAB				38520 38520		, ICIG INUES) 	
ORP Meter						38520 38520		Sample Me	ethod Lov	v Flow	
D.O. Meter	HYDROLAB SOLINST					25582		Sample Wit			
Interface Probe	MINI-RAE					00320					
PID/OVA Pump	GEO-PUMP					01689					
Filter Apparatus	GEO-, 45 MIC	RON		- Circl	<u>n</u>	- / 		Discharge	Water Co	ntainerized	X Yes No



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Date	5/24/04	

				· · · · · · · · · · · · · · · · · · ·				 					
Well Nan	ne <u>W1-1</u>	9			Screen	Interval14	-19						
Project _	CTO 86-Site	1, 2nd Qua	rter		Station	Elevation	GND	TOC	Immiscible	Phases Pr		Yes	
Project N	o. <u>1990.0</u>	86E			Static Water Level (from TOC) / Time 5.62/1138 5.03/1134 5.03/1140								
Well Loca	ation <u>Moffett</u>	- Site 1			Average Water Level (from TOC) 5.03								
Sample I	Date _ 5/2	5/04			_	ice PointT	•		PID Readings (background) OpAu				
Sampling	Personnel _	D. HARRIS	ON						PID Readin	g (TOC)	Opput		
. •	· · · · · · · · · · · · · · · · · · ·	M.RAMOS			Static Elevation				Notes	• (· · · / _	17	***************************************	
					Well De	oth MEAS	11,30 F	RPTD					
Sample I	D 86-S1-0	04				f Bottom of T							
Duplicate					-			ell) 5.0 5					
		T.					PURGING				· · · · · · · · · · · · · · · · · · ·		
	Discharge	Dissolved		5	T	Specific Conduct.	- 1.17	Cumulative Volume of Water	PID/OVA	Reading	Donth to		
Timo	Rate ¹	Oxygen		Eh/ORP	Temp.	(μmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Depth to Water ² (ft)	Comm	onto
Time	(L/min)	(mg/L)	pН	(mV)			· · · · ·		Location	value		Comm	ens
10.06	.4	5:85	664			52303	6.6	<u>; ス</u>			5.11		
1009	,4	078	667	96	2136	51792	5,9	.4			5.13		
1012	.4	057	6.61	96	21.97	52008	4.2	.6			5.19		
1015	.4	0.52	663	14	2/60	52654	7.9	, 8			5.22		
	10/8 4 0.48 668 9				2/72	52/19	3,8	1			5,24		
1021	,4	044	669	182	2198	52161	3.7	1.2.			5125		
1025	Collect	Souple	 										
					<u> </u>								
					 								
		<u> </u>	<u> </u>	<u> </u>			<u> </u>						
_	e = 0.2 - 0.5 L/mi n shall be <0.33												
SAMPLE	PARAMET	ERS						nali					
3 v	1015	2 x 5/6	v/S	2, A	T	2x ACB	<u></u>	2/x D.MHS	/x D M	97.			
SAMPLE		10 1/2 000	~~~							·			
	1 Um	.4		.4		.4		. 4	.4				
Notes: 1. Sample r 2. Sample r Condition	ate for VOCs and ate for non-VOCs	alysis = 0.1 - 0.2 s analysis = pur	ge rate =	0.2 - 0.5 L <i>J</i> n									
remarks	· VOL 3	amples	CAIU	COLP	J.,				<u></u>	•	,		
FIELD E	QUIPMENT								•				
pH Meter	·	HYDROLAE	3		Serial N		38520	· · · · · · · · · · · · · · · · · · ·	Number of	Bottles	11		_
Tempera	ture Meter	HYDROLA	B		Serial N	lumber <u>#</u> :	38520						
Turbidity	Meter	HYDRO	LAB		Serial N	lumber <u>#</u>	38520				7		
Spec. Ele	ec. Cond. Met	ter <u>HYDR</u>	OLAB		Serial N	lumber <u>#</u>	38520		Field Notes	000k <u>19</u>	Ψ		
ORP Me	ter <u>H</u>	DROLAB			Serial N	lumber <u>#</u>	38520						
D.O. Met	er <u>HY</u>	'DROLAB					38520		Sample Me	thod <u>Low</u>	/ Flow		_
Interface	Probe SO	LINST					25582						
PID/OVA		VI-RAE					00320						
Pump		O-PUMP			Serial N	lumber #	01689		DiI	14/4- 2	4	V V 1	
Filter App	paratus <u>G</u>	EO45 MIC	RON						Discharge	vvater Cor	ntainerized	X Yes	No



Page .	_1_ of_	_1_
Date_	5/24/04	

Well Nam	e <u>W1-2</u>	2			Screen I	Interval <u>N/A</u>	\	***			-	- d-
Project	CTO 86-Site	1, 2nd Quar	ter		Station Elevation GND TOC Immiscible Phases Present Yes X No							
Project No	o. <u>1990.08</u>	36E			Static Water Level (from TOC) / Time 3.52/1206 3.52/1201 3.53/1208							1208
Well Loca	tion Moffett-	Site 1				Water Level		3,52				
Sample D	ate <u>5/2</u>	6/04			Referen	ce Point	oc		PID Readings (background)			
	Personnel		ON						PID Readin	g (TOC)	DMm"	
		M.RAMOS			Static E	levation			Notes		11	
		V			Well De	oth MEAS	66 R					
Sample I	D 86-S1-00	09				f Bottom of To						
Duplicate					Depth to	Water (w/ T	ubing in W	ell) 3.56				
					[****]	· · · · · · · · · · · · · · · · · · ·	PURGING		·-·		T	
						0 '5"						İ
						Specific		Cumulative	PID/OVA	Reading		
	Discharge	Dissolved		E1. (ODD	Tomo	Conduct. (µmhos/cm	Turbidity	Volume of Water Removed/Purged	110/01/1		Depth to	
Time	Rate ¹	Oxygen	nLi	Eh/ORP (mV)	Temp.	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
Time	(L/min)	(mg/L) 2.27	pH	 ` 		3/391	95.6	,2			3.58	
0742	,4		6.10	4	1642	30 270	47.8	.4			3.60	
0745	,4	0562	621	-/4	16,67	901770	31.3	16			3,64	
0748	4	0.76	13.39	70	16.01	31999	20.8	18			3.68	
075/	.4	0.64			16.9	40 U LEK	16.9	1			3:10	
0754	.4		643	-27		26658	17:37	1. 2			3.74	
0757	C. 11.1	0.63	6.77	227	1 737	35010	/ Fi/ I	7. 0				
0800	Collect	Sample	-				:					
			 				<u> </u>	,				
-						<u> </u>						
												
Notes:			<u> </u>	<u> </u>		1			: `			
_	te = 0.2 - 0.5 L/m											
	m shall be <0.33											
	PARAMET			1) (Ια ΔΒ		1 > 44.12	ILCO M	lines . 0.1	I	
3x V		12x SVIX	<u>''5</u>	2x f	<u>est.</u>	2x AB	5	Ix D. Metals	IK O. I	awy	l	
SAMPLE		1 ./		.4				.4	-11			
Notes:	you	1 19		1 44		1		1				
	rate for VOCs an											
2. Sample	rate for non-VOC	s analysis = pui	ge rate	= 0.2 - 0.5 L/i	minute							
	n of Well: <u>(</u>	and	~									
Remarks	: YOUS !	samples	effei	vesued								
FIELD E	QUIPMENT											
	r	HYDROLA	В		Serial I	Number <u>#</u>	38520		Number of	Bottles _	11	
•	ature Meter _				Serial I	Number#	38520					
•	Meter	HYDRO			Serial 1	Number#	38520					
-	ec. Cond. Me	eter <u>HYDR</u>	OLAB		Serial I	Number#	38520		Field Note	book _ †	<u> 10</u>	
ORP Me		YDROLAB			Serial I	Number#	38520	·				
D.O. Me	ter <u>H</u>	YDROLAB			Serial		38520		Sample M	ethod <u>Lov</u>	w Flow	
Interface	Probe <u>SC</u>	DLINST			Serial		25582			· · · · · ·		
PID/OV	AM	NI-RAE		· · ·	Serial		00320					
Pump _	G	EO-PUMP			Serial	Number#	01689		D:*	14/-4 0		X Yes No
Filter Ap	paratus	GEO45 MIC	RON						Discharge	vvater Co	ntainerized	X Yes No



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Date	5/24/04	

Well Nam	ne W1-2	3			Screen	Interval N//	Δ	<u> </u>				
	CTO 86-Site		ter .					TOC	Immiscible	Phases Pr	resent [Yes X No
	o. <u>1990.0</u>				Static Water Level (from TOC) / Time 5,35/1153 5.35/1154 5,35/1155							
-	ation <u>Moffett</u>					Water Level				-1		
Sample [UNU I	···		_		-		PID Readin	as (backa	round) Opp	<u></u>
	Personnel_	D HARRIS	ON						PID Readin	a (TOC)	Orm	
Campung		M.RAMOS	<u> </u>			levation			Notes	3 (· · · / <u>-</u>	-11	
		<u>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>						RPTD	Feet of War			
Sample I	D 86-S1-0	05				f Bottom of T						
Duplicate								/ell) <u>5.35</u>	·····			
[PURGING					
<u> </u>		г		<u> </u>	1		PURGING					
						Specific		Common destina				
	Discharge	Dissolved	1			Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen	ĺ	EWORP	Temp.		Turbidity	Removed/Purged			Depth to	İ
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	" at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
12 45	,4	1.00	6 66	-49	2434	62696	270	12.			5,39	
1248	.4	0.98	6.70		24.12	73526	6.9	, 4			5.46	
1251	14	0.49	1.69	-77	13 85	77461	185.1	,4			5,58	
1254	y	0.44	69	-12	27.77	40103	444.2	18			5.12	
1250	ů	0150	1.73	-69	27.69		0.0	1				
1	Collecti			Pan Dr								
	20116211	7.00		/	1							
Notes:												
-	te = 0.2 - 0.5 L/m vn shall be <0.33											
	E PARAMET											
NA	- I AIOMINE II	1		T								
SAMPLE	RATE	1										
NU												
Notes:	rate for VOCs an	alveis = 0.1 - 0.3) /minut	re								
	rate for non-VOC				minute							
Condition	n of Well: 🕜	الخريد										
	: Treach	van dr	1 0	1258	3							
		7										
	QUIPMENT	LIVERELA	_		Carial I	diambor #	20520		Number of	Rottles	Ø	
pH Mete		HYDROLAI					38520 38520		Humber of	Douico_		
•	ature Meter	HYDROLA		<u>·</u>			38520 38520					
Turbidity		HYDRO					38520 38520		Field Notel	oook 4	4,8	
•	ec. Cond. Me		OLAB				385 <u>20</u>		110101	—t)	
ORP Me		YDROLAB YDROLAB					38520 38520		Sample Me	ethod Lov	v Flow	
	D.O. Meter <u>HYDROLAB</u> Interface Probe <u>SOLINST</u>						25582		= /p 101			
	Interface Probe <u>SOLINST</u> PID/OVA <u>MINI-RAE</u>						00320					
Pump_		EO-PUMP					01689					
Filter Ap		SEO45 MIC	RON			· 			Discharge	Water Co	ntainerized	X Yes No



Page_	_1_	_ of _	1_
Date _	5/24	<u>/04</u>	

Well Name W1-24					Screen Interval 6-16							
	CTO 86-Site		rter		Station Elevation GND TOC Immiscible Phases Present							
	o. <u>1990,0</u>				Static Water Level (from TOC) / Time 6,95/1223 6,95/1224 6,95/1225							
=	ation Moffett				Average	Water Level	(from TOC	16,95				
Sample I		124/04						/ 	PID Readings (background) Off M			
	Personnel		ON						PID Readin			·
p8	_	M.RAMOS				levation			Notes		The	
		111111111111111111111111111111111111111							· ·			
Sample I	D 86-S1-0	12			Well Depth MEAS 20.24 RPTD Feet of Water Depth of Bottom of Tubing 11							
	e ID <u>N/A</u>	<u> </u>				o Water (w/ T						
		,					PURGING					
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen		Et/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1310	14	1.05	675	60	2540	48219	11.1	12			7.00	
1313	14	0.70	6.H	4	2462	49917	1511	,4			7.04	
1316	,4	039	6.70	-7	2430	49/60	188	.4			7.05	
1319	14	037	6.68	-/1	24,02	48350	2519	18			7.08	
1322	322 4 034 6.69 -					48261	23.9	1			1-10	
1329	,4	033	6.63	4	2359	49789	17.1	1,2			7.11	
	Collect	faunde										
		7										
												
2. Drawdow	e = 0.2 - 0.5 L/m n shall be <0.33	foot										
	PARAMETI		7_	La A		<u> Α.ς</u>		A .44		44	T	 -1
SAMPLE		2. 540	25	JX PE	st.	2x PCR	5	Ix D. MHG	/x D.	Meitur J	1	
CAIIII EE	1 L/m	.4		, ,	1	.4		ا ن	, i/			
2. Sample r	ate for VOCs and ate for non-VOCs	s analysis = pur	ge rate =		ninute		-		-			
		Apres C	TICI V	[20, 4)							1.3.3	
pH Meter	QUIPMENT	HYDROLAE	3		Serial N	lumber #	38520		Number of	Bottles	11	
•	ture Meter	HYDROLA			Serial N	lumber #	38520					
	Meter	HYDRO			Serial N		38520					
	ec. Cond. Me				Serial N		38520		Field Noteb	000k_ <u>Pq</u>	13	
ORP Me		DROLAB			Serial N		38520					
D.O. Met	***************************************	DROLAB					38520		Sample Me	thod <u>Lov</u>	Flow	
	Probe SO				Serial N	lumber#	25582					
PID/OVA		NI-RAE			Serial N		00320					
Pump		O-PUMP			Serial N	lumber #	01689			 -		
	norotus C	EO 45 MIC	DON						Discharge	Mater Co	ntainerized	X Yes No





TETRATECH FW.INC. LOW-FLOW GROUNDWATER **SAMPLING DATA SHEET**

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Date	11/8/04	

	····				.							
Well Nam	ne <u>W1-1R</u>				Screen	Interval	14.3-2	4.3				
Project	CTO 86-Site	1.							Immiscible	Phases Pr	esent	Yes X No
Project No	o. <u>1990.08</u>	36E			Static W	/ater Level (fr	om TOC) /	TOC Time <u>8.35 083</u>	9 8	30/0540	<u> 5.35</u>	7084
Well Loca	tion <u>Moffett</u>	Site 1	·		Average	Water Level	(from TOC	3,30				<u>. </u>
Sample [Date 11 8	04							PID Readin	gs (backgi	round) Only	
Sampling	Personnel	D. HARRIS	ON						PID Readin	g (TOC)	oppv-	
	_	M.RAMOS				levation			Notes			
					Well De	oth MEAS 2	7.45 F	RPTD	Feet of Wa	ter		
Sample l	D 86-S1-056	3				f Bottom of T						***************************************
	ID N/A					o Water (w/ T						
	<u>,</u>						PURGING				·	
	Discharge	Dissolved		El (000	Tomp	Specific Conduct. (µmhos/cm	T : 194.	Cumulative Volume of Water	PID/OVA	Reading	Depth to	
Time	Rate¹ (L/min)	Oxygen (mg/L)	pН	Eh/ORP (mV)	(°C)	at °C)	(NTU)	Removed/Purged (Gallons)	Location	Value	Water ² (ft)	Comments
0858	,4	0.42	6.58	321	15.74	99642	2.1	,2			831	
0901	,4	0.28	638	319	1618		1,9	.4			8.32	
0904	ιÝ	0.25	6.57	318	16,114	98750	1,6	, φ			8,32	
0907	, 4	0,22	6.57	317	1656	98760	113	٠, ٧			8.32	
0910	, 4	0.21	6.56	3/7	16.66	18652	1:3	1,0			8.33	
0915	Collect	Sauph										
		7										
2. Drawdov	te = 0.2 - 0.5 L/m vn shall be <0.33	foot										
3× 2×	SVOCs Voc	2xSV0	C's	2xP	CBs	2xPi	EST	1xD.MERC.	1xD.N	/letals		
SAMPLI	RATE											
Γ.	Ulan	,41	Im	,4	Um	,41	Um	,4 c/m	.4	Llus		
2. Sample Condition	rate for VOCs and rate for non-VOC on of Well:	s analysis = pul ccd - Ne	rge rate :	=0.2-0.5 Ur to be	paint	rel						
	QUIPMENT	· · · · · · · · · · · · · · · · · · ·										
pH Mete	r	HYDROLA	<u>B</u>		Serial	Number#	R41041		Number of	Bottles _	2X1LA-3	e 4anlv
Tempera	ature Meter	HYDROL	AB		Serial	Number#	R41041				6X1LA	
Turbidity	Meter	HYDRO	LAB		Serial	Number#	#R41041				1X1LP	
Spec. E	lec. Cond. Me	ter <u>HYDF</u>	OLAB		Serial	Number#	#R41041				1X250m	LP
ORP Meter <u>HYDROLAB</u>					Serial	Number#	#R41041		Field Note	book fe	.43	
D.O. Meter HYDROLAB					Serial Number #R41041						-	
Interface Probe <u>SOLINST</u>					Serial	Number	‡25582		Sample M	ethod <u>Lo</u>	w Flow	
PID/OVA MINI-RAE					Serial	Number	‡ 00320					
Pump_	G	EO-PUMP			Serial	Numberi	BA0041					
Filter Ap	paratus	BEO45 MIC	CRON						Discharge	Water Co	ontainerized	X Yes No



TETRATECH FW, INC. LOW-FLOW GROUNDWATER **SAMPLING DATA SHEET**

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-												
Well Nan	ne <u>W1-5</u>				Screen	Interval	14.5-1	9.5				
Project _	CTO 86-Site	1.							Immiscible	Phases Pi	resent [Yes X No
Project N	o. <u>1990.0</u>	86E_			Static V	/ater Level (fr	om TOC) /	TOC Time <u>5,82/08</u>	13 50	82/081	4 5.8	2/08/5
Well Loca	ation Moffett-	- Site 1			Average	Water Level	(from TOC	15,82				
Sample I	Date 11 9	184			_		-		PID Readin	as (backa	round) Qpp	A
Sampling	Personnel_	D. HARRIS	ON						PID Readin	a (TOC)	DAN	
		M.RAMOS			Static E	levation —			Notes	• , ,	77	
					Well De	pth MEAS	1.33F	RPTD				
Sample I	D <u>86-S1-06</u>	3				f Bottom of T						
Duplicate	e ID <u>86-S1</u>	-064						eli) <u>ゞ. 8</u> レ				
											······	
		I	· · · ·		I	1	PURGING				ΓΙ	
	D:				***************************************	Specific		Cumulative	BID/OVA	Dooding		
	Discharge	Dissolved		Eh/ORP	Tomp	Conduct.	To out i alita e	Volume of Water	PID/OVA	Reading	Depth to	
Time	Rate¹ (L/min)	Oxygen (mg/L)	pН	(mV)	(°C)	at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Water ² (ft)	Comments
1343	.4	(mg/L)	654	183	1820		13	, 2	Location	value	5.84	Comments
1346	14	0.28	653	175	14 K	84224	100	, <u>, , , , , , , , , , , , , , , , , , </u>			5.84	
1749	.4	025	6.54	170	1010	94144	0.9	-6			5,87	
1352	74	0.22	654	165	1836	83695	D.7	, 8			5.89	
1355	, 4	0.21	1.501	162	1436		0.7	1.0			5.89	
1358	.4	0,20	6.54		1834	83521	0.2	1.2			5.89	
1400	Collect	SauNo		101	1037	0.3.3.2/	0.2	1.2			3,87	
1415	Collect	Field		icate	 							
1713	COTICO	FIEIG	(Was	late	 			 				
	<u> </u>	 	-		 							
 			 		 							
Notes:	<u></u>	1	·	!	<u> </u>	<u> </u>		<u> </u>	<u> </u>	1		
-	te = 0.2 - 0.5 L/m vn shall be <0.33											
									ر رخسه			
	PARAMET	,	<u> </u>	1 45		1 4.50	-0-	0.04500	, 	#	<u> </u>	-
SAMPLE	(VOCs	4xSVO	US	4XP	CBs	4xPE	201	2xD.MERC.	2xD.N	rietais	J	<u></u>
	1 c/m	144	u.A	1 ,4	Um	.4	Ym	, 4 Um	14	Um		
Notes:	7.5/51	1 1 -/			901	<u> </u>	-/-/	1 7 7 7	1	7	· · · · · · · · · · · · · · · · · · ·	
	rate for VOCs and rate for non-VOC				minute							
•	,	э аналузія — рол > — <u>і</u>	ge rate -	0.2 - 0.0 0	mute							
	n of Well:	exel.		. 40				Malaaa	7-1	120	had	
Remarks	s:Slight_i	425 ode	V_s_	VOC S	a mples	s efferv	ecseg,	Metals + Men	c tiel	<u>a 1711</u>	eveo .	
FIELD E	QUIPMENT											
pH Mete	r	HYDROLA	В		Serial !	Number #	R41041		Number of	Bottles _	6X40mLV	
Tempera	ature Meter	HYDROL	\B		Serial I	Number <u>#</u>	R41041				121LA	
Turbidity	Meter	HYDRO	LAB		Serial l	Number#	R41041				<u>2</u> X1LP	
•	ec. Cond. Me	ter <u>HYDF</u>	OLAB		Serial	Number#	R41041				<u>2</u> X250m	LP
ORP Me	ORP Meter HYDROLAB					Number#	R41041		Field Note	book Pas	3, 49+51	2
	D.O. Meter <u>HYDROLAB</u>					Number#	R41041			<u> </u>		
Interface	Interface Probe <u>SOLINST</u>					Number#	25582		Sample Method _Low Flow			
PID/OV	A <u>MI</u>	NI-RAE			Serial	Number#	00320					
Pump _	G	EO-PUMP			Serial	Number	3A0041					
									O:b	Minhay Co	ntainarizad	IV I Vac I I Na



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Dete	44/0/04	

													-
Well Nan	ne <u>W1-8</u>				Screen	Interval	13-18						
Project _	CTO 86-Site	1,			Station	Elevation	GND_	TOCTOC Time_ <u>5,98/68/</u> S)_5-88	Immiscible I	Phases Pr	resent]Yes 【	.] No
Project N	o. <u>1990.08</u>	36E			Static V	Vater Level (fr	om TOC) /	Time 5,98/08/	18 5,	90/08	19 5.90	1/082	<u> </u>
Well Loca	ation Moffett-				Average	e Water Level	(from TOC						
Sample I	Date	10/04			Referen	nce PointT	oc		PID Reading	gs (backg	round) Opp	,~	
Sampling	Personnel	D. HARRIS	ON		Referen	nce Elevation			PID Readin	g (TOC) _	round) <u>Opp</u>		
		M.RAMOS			Static E	levation			Notes		·		
					Well De	epth MEAS 🕹	<u>2.67</u> f	RPTD	Feet of Wat	er		·	
Sample l	D_86-S1-06	5				of Bottom of T							
Duplicat	e ID <u>86-S1</u> -	-066			Depth to	o Water (w/ T	ubing in W	'ell) <u>5,90</u>					
<u> </u>							PURGING						
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP	Temp.		Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comme	ents
0740	.4	0.47	16		13,5		1.08	12			5.94		
0743	.4	0.31	6.6	1	13.7	93594	0.8	. 4			5.96		
0746	.4	0,23	6.6		141	92821	0,5	,4			5.97		
0749	. 4	0,22	6,6	T	14.4	92324	0.4	.8			5,97		
0752	.4	0,21	6,6	196	14.6	92057	0.4	110			5,98		
0195	Collect	Sample	*	65	14.7	<u> </u>	<u> </u>						
0810	Collect	Field	DU	slicut	e #	6							
										,			
			<u> </u>	<u> </u>		ļ							
	<u> </u>		<u> </u>	<u></u>	1	<u>L</u>	<u> </u>	<u> </u>	İ		<u> </u>		
-	te = 0.2 - 0.5 L/m wn shall be <0.33												
SAMPLI	E PARAMETI	ERS											
6	xVOCs	4xSVO	C's	4xP	CBs	4xPI	EST	2xD.MERC.	2xD.N	letals			
SAMPL	E RATE	<u> </u>											
	1 c/us	1 440	Jm	, 4	4/11	. 4	Yin	.44/4	.4	4/4			
Sample Condition	rate for VOCs and rate for non-VOC on of Well:	s analysis = pu	rge rate			Metals	+ Me	rc, weve f	Tield 1	Filte	ed		
FIELD E	QUIPMENT	1											
pH Mete	er	HYDROLA	В		Serial	Number#	R41041		Number of	Bottles _	6X40mLV		
Temper	ature Meter _	HYDROL	AB		Serial	Number	R41041				121LA		_
Turbidit	y Meter	HYDRO	LAB		Serial	Number	#R41041				<u>2</u> X1LP		
Spec. E	lec. Cond. Me	eter <u>HYDF</u>	ROLAB		Serial		#R41041				2X250m		
ORP M	eter <u>H</u>	YDROLAB			Serial		#R41041_		Field Note	book	95, 51+	52_	
D.O. Me	eter <u>H</u>	YDROLAB			Serial		#R41041						
Interfac	e Probe <u>SC</u>	LINST			Serial		‡25582		Sample M	ethod <u>Lo</u>	w Flow		_
PID/OV	'AMI	NI-RAE					<u> #00320</u>						
Pump_		EO-PUMP			Serial	Number	BA0041	· · · · · · · · · · · · · · · · · · ·	Di- i	\\\-\-\-\-		V v 1	٦.
Filter A	oparatus (3EO45 MK	CRON						Discharge	vvater Co	ontainerized	X Yes	١IN



TETRATECH FW.INC. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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Well Nan	ne <u>W1-12</u>	R			Screen	Intervai	15-25		•			
Project _	CTO 86-Site	1,				Elevation			Immiscible	Phases Pr	esent [Yes X No
	o. <u>1990.0</u>							Time 3.09 050		09/080	1 300	7/0501
Well Loca	ation Moffett-	Site 1				e Water Level			نے۔ نامہ	1		7-5-
	Date 11 9				-		•	//	PID Readin	as (backa	round) DOA	k _
	Personnel _		ON						DID Deadin	gs (backgi	round) Opp	7.10
		M.RAMOS				levation			Notos	g (100)_	OPP~	
								RPTD	Notes			
Sample I	D 86-S1-06	,							reet of vva	ter		
1 -	e ID <u>N/A</u>	·		 [of Bottom of T			<u> </u>			
Dupitcati	N/A				Depth t	o vvater (w/ i	ubing in vv	ell) <u>3.09</u>				
						l	PURGING					
			1			Specific		Cumulative				
	Discharge	Dissolved	1		1	Conduct.		Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen	1	Eh/ORP	Temp.	(μmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0900	.4	075	655	360	15.89	92495	7.5	,2			3.12	
0903	.4	043	6.57	399	1623	92728	5.7	. 4			343	
0906	, 4	136		344	1647	92152	4.0	. 6			3.14	
0909	, 4	D26	659	339	16.76	94602	3.3	, 8			3.14	
09/2	.4	0.20		337	16.79	92170	2,4	1.0			3.14	
0919	,4	0,20		333	1688	94767	1,9	1,2			3.14	
0918					17:01	92662	1.3	1,4			3.14	
0920	Collect			1	7 -	12002	1,22				3,77	
10.00	CETTLECT	100410			†	1						
	1.		 	 	†		 			<u> </u>		
	9.2		<u> </u>	 	 	<u> </u>	 				-	
Notes:		L	<u> </u>	<u> </u>	<u> </u>	<u> </u>	L	L	<u></u>	l	L	
-	e = 0.2 - 0.5 L/mi											
2. Drawdow	m shall be <0.33	toot										
SAMPLE	PARAMETE	RS										
3>	(VOCs	2xSV0	C's	2xP	CBs	2xPt	EST	1xD.MERC.	1xD.N	1etals		
SAMPLE	RATE											
6/	Llm	.44	lur	.4	clan	-40	la	.4 c/as	,46	Tur		
Notes:		h-i 04 00						, , , , , , , , , , , , , , , , , , ,	-			
-	ate for VOCs and ate for non-VOCs	-			minute							
	n of Well:	· 1	•									
			~ <i>L</i>	1125		Mac Can	- 1/2/ 2	To a Garand	11 1-1-	41		11 241
Remarks	Rlack /T	3014 / S	TVCHB	MAD	CCIOTY	VOC Sai	apies e	Herrecsed. 1	METAIS 7	TVIEUC.	were Tre	ld Filterel
FIELD E	QUIPMENT											
pH Meter	ſ	HYDROLA	В		Serial I	Number <u>#</u>	R41041		Number of	Bottles	3x40mLV	
Tempera	ture Meter	HYDROLA	λB		Serial I	Number #	R41041				6X1LA	
•	Meter				Serial I	Number #	R41041				1X1LP	
-	ec. Cond. Me						R41041				1X250m	LP
ORP Me		DROLAB					R41041		Field Note	book Pa	.47	
D.O. Met		DROLAB					R41041			-4-	····/	
	Probe SO						25582		Sample M	ethod I ov	v Flow	
PID/OVA		NI-RAE					00320		Sample Method <u>Low Flow</u>			
Pump		O-PUMP					3A0041			• • • • • • • • • • • • • • • • • • • •		
. —	paratus <u>G</u>		RON		Condi		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Discharge	Water Co	ntainerized	X Yes No
· inter Ap	~~. ~. ~ <u>~</u>	TO INIT							Districtinge			ਂ ·⊶ ∟ [™]



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D	44.0		

Well Nan	ne <u>W1-14</u>				Screen	Interval	41-14					
Project_	CTO 86-Site	1,							immissible	Dhagas Di	т	Yes X No
Project N	o. <u>1990.0</u>	86E			Station Elevation GND TOC Immiscible Phases Present Yes X No Static Water Level (from TOC) / Time $\leq 90 / 0.149 \leq 90 / 0.1$							
	ation Moffett				Average Water Level (from TOC) 5186							
	Date 119				Reference Point TOC PID Readings (background)							
Sampling	Personnel_	D. HARRIS	ON						DID Dondin	gs (backy		<u> </u>
		M.RAMOS		7 11.00		levation			Notes	g (10c)_	oppl!	
					Well Da	enth MEAS	167	RPTD				
Sample I	D 86-S1-06	0			Depth of Bottom of Tubing 9.1							· · · · · · · · · · · · · · · · · · ·
, .	e ID <u>N/A</u>				Denth t	o Water (w/ T	ubing <u> </u>	ell) 5,86				
					Depth to Water (w/ Tubing in Well) 5186							
		· · · · · · · · · · · · · · · · · · ·					PURGING					
	Discharge Rate ¹	Dissolved Oxygen		Eh/ORP	Temp.	Specific Conduct. (µmhos/cm	Turbidity	Cumulative Volume of Water Removed/Purged	PID/OVA	Reading	Depth to	
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0745	.4	0.98	6.66		14,011	63852	13.1	,2			5.88	
0748	,4	0.55	6166	239	1416	65569	7.5	.4			5.91	
075l	.4	039	665	224	1441	63/74	65	.4			5.92	
0754	.4	0-32	665	273	1462	66290	4.2	.7			5.94	
0757	,4	0.29	663	247	14.81	64146	3.6	. 9			5.96	
0800	,4	029	662	246	15.10	64645	3.i	(.1				
0805	Collect	Sample										
<u> </u>		<u> </u>										
_	e = 0.2 - 0.5 L/mi n shall be <0.33								***************************************			
SAMPLE	PARAMETE	ERS			٠							
3 x	\$VOCs	2x5V0	C's	2xP0	ìRs	2xPE	ST	1xD.MERC.	1xD.M	lotale		T
SAMPLE				201		2/12	.01	IXD.WENC.	TXD.IV	letais		
	Lles	.41	lu	.41	lun	41	Tan	. 4 4/kg	.40	lu		
Notes: 1. Sample notes: 2. Sample notes:	ate for VOCs and ate for non-VOCs	ilysis = 0.1 - 0.2 analysis = purg	L/minute	•	/ 		<i>[</i> •••			<i>jw</i> i	<u> </u>	
	:_VOC S		off	evecs.	n 7.	notals +	Mari	were field	tilteree	/	····	
· · · · · · · · · · · · · · · · · · ·	·	awyres_	2770	VC.C.SE	67. /	1014/5 1	WIEUL	Weve Treat	VITITUEE	/		
FIELD E	QUIPMENT											
pH Meter	·	HYDROLAE	3		Serial N	Number #	R41041	·	Number of	Bottles	-2X1LA 3x	YOULY
Temperat	ture Meter	HYDROLA	<u>B</u>		Serial N	lumber <u>#</u> I	R41041				6X1LA	
Turbidity		HYDROI			Serial N	Number#	R41041				1X1LP	
	ec. Cond. Mel	er <u>HYDR</u>	OLAB_		Serial N	Number <u>#</u> I	R41041				1X250mL	Р
ORP Met	ter <u>H</u> Y	DROLAB			Serial N	Number #	R41041		Field Noteb	ook /	9.46	
D.O. Met	er <u>HY</u>	DROLAB	·		Serial N	lumber <u>#</u> I	R41041					
Interface		<u>LINST</u>			Serial N	Number#	25582	<u>.</u>	Sample Method Low Flow			
PID/OVA	<u> </u>	II-RAE			Serial N	Number #6	00320					
Pump		O-PUMP	···		Serial N	Number B	A0041					
Filter Ann	aratus C	EO. 45 MICI	DON:						Disabares	A (- L		V Van III Na



Page_	_1_	_ of _	_1
.			

Service const											Date	+	
Well Nan	ne W1-15	i			Screen	Interval	4414	14					
Project	CTO 86-Site	1.				Elevation			Imminaible	Dh D-	Г	r	J
	o. <u>199</u> 0.0								Immiscible	Phases Pi	′ . L	Yes [
-	ation Moffett					Water Level			01	55/0123	<i>ای ها</i>	1072	<u> </u>
	Date					nce Point <u>T</u>	-		DID Dooding	(. AAA		
	Personnel		ON						PID Readin	igs (backg	round) DAA	n_	
	· · · · · · · · · · · · · · · · · · ·	M.RAMOS			Reference Elevation PID Reading (TOC) Notes								
		N.3.7.11100			Mail De	neth MEAC (9 RPTD	Notes		• •		
Sample I	D 86-S1-05	7	·						Feet of Wa	ter			
1 -	e ID <u>N/A</u>	·				of Bottom of T							
					Бериги	o Water (w/ T	ubing in vv	eii) <u>(0 : 5 b</u>					
							PURGING						
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP		(µmhos/cm	1	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comm	ents
0957	-4	0.55	654	230	1638	98960	3.2	، ک			6.40		
1000	, 4	042	654	127		97424	1.9	. 4			6.41		
1003	- 4	032	6.55	225		96996	0.2	,6			6.42		
1006	, 9			222		97//6	0.2	,8			6.43		
1009	14			219	1705	96029	014	1-0	_		6.43		
1015	allect	544A)&											
	·		<u></u>										
							,						
<u> </u>				<u> </u>									
_	e = 0.2 - 0.5 L/mi n shall be <0.33												
SAMPLE	PARAMETE	ERS											
2X:	SVOCs	2xSV00	C's	2xP0	CBs	2xPE	ST	1xD.MERC.	1xD.M	letals			
SAMPLE	RATE	****		•									
u	1 Clas	.44	lus	.4	May	14 L	lus	.4L/m	140	14			\neg
Notes: 1. Sample n 2. Sample n	ate for VOCs ana ate for non-VOCs	lysis = 0.1 - 0.2	L∕minute	9			<i>.</i>		· · · · · · · · ·			_	
Condition		Samples	فيجر	Herved	501	Madel	- 4 M.	rc. were t	ield F	Hered			
		Samples		revier	<u> </u>	rietais	· Tries	c. were 1	relu I	nevea	*		
	QUIPMENT												
pH Meter		HYDROLAE		 -	Serial N		R41041		Number of	Bottles	2X1LA		
•	ture Meter	HYDROLA			Serial N		R41041				6X1LA		_
. •	Meter	HYDROL			Serial N		R41041				1X1LP		
	c. Cond. Met		OLAB_				R41041				1X250ml		_
ORP Met		DROLAB					R41041		Field Noteb	ook Pgs	5, 43+4	4	
D.O. Met		DROLAB			Serial N		R41041			··········			
	Probe SOI						25582		Sample Me	thod <u>Low</u>	Flow		
PID/OVA		II-RAE					00320						
Pump		O-PUMP			Serial N	lumber <u>B</u>	A0041						
riiter App	aratus <u>G</u>	EU45 MICI	KON						Discharge '	Water Cor	ntainerized	X Yes	No



Page	1 of _	_1
Date_	11/8/04	

Project No. 150 15	Well Nan	ne <u>W1-16</u>				Screen	Interval	5.4-15	5.4				
Project No. 1990.086E	Project _	CTO 86-Site	1.							Immiscible	Phases Pr	esent [Yes A N
Average Water Level (from TOC)	Project N	o. <u>1990.0</u>	86E			Static V	Vater Level (fi	rom TOC) /	Time 7,75/08				7/0835
Sample Date _ 1 10 65	Well Loca	ation Moffett	- Site 1		 .						/		1
Sampling Personnel D. HARRISON M.RAMOS Static Elevation Static Elevation Notes N					=_	_		•		PID Readin	ns (hacka	round) DOC	١
Static Elevation				ON									165
Sample ID 86-S1-088	,		_									Oppos.	
Depth to Water (w Tubing _ 10.4 Depth to Water _ 10.4 Depth to Water (w Tubing _ 10.4 Depth to Water _ 10.4 Depth to W		*******				10 21							
Depth to Water (w/ Tubing in Well) 7.75	Sample I	D 86-S1-06	3	****						reer or vva	LEI		
PURGING Discharge Dissolved Rate Oxygen Eh/ORP Temp (umhos/cm Turbidity Removed/Purged Location Value Water (tr) O.794 O.792 S.38 264 16.35 975.973 1.7	-	_											
Discharge Discolved Rate Conduct.									···)				
Discharge Discolved Rate Oxygen Cumulative Conduct. Cumulative Cumu								PURGING	I	r	······································		
OFF 1	Time	Rate ¹	Oxygen		1 1	•	Conduct. (µmhos/cm		Volume of Water Removed/Purged	PID/OVA	Reading		
Offst				/ "7"				· · · · · · · · · · · · · · · · · · ·		Location	Value		Comments
0.75				6.28		16.55	70781						·····
0.95		.9		47/		16.13	98 476	L 22-					
1000		. 4					91275						
Notes: 1. Purge rate = 0.2 - 0.5 L/minute 2. Dawdown shall be <0.3 shoots 5AMPLE PARAMETERS 5AMP							13777			ļ			
Notes: 1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be = 0.33 foot SAMPLE PARAMETERS SAVOC's 6xPCBs 6xPEST 3xD.MERC. 3xD.Metals SAMPLE PARAMETERS SAMPLE PAR													
Notes: 1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be -0.33 foot SAMPLE PARAMETERS 9xVOCs 6xSVOC's 6xPCBs 6xPEST 3xD.MERC. 3xD.Metals SAMPLE RATE 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample tate for root Sanalysis = 0.1 - 0.2 L/minute 2. Sample tate for root Sock analysis = 0.2 - 0.5 L/minute Condition of Well: Cocx Remarks: SILLUT N.2.S. cdov FIELD EQUIPMENT pH Meter HYDROLAB Serial Number #R41041 Number of Bottles 9x40mLV Temperature Meter HYDROLAB Serial Number #R41041 3x1LP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 Field Notebook 67, 53 D.O. Meter HYDROLAB Serial Number #R41041 Field Notebook 7, 53 D.O. Meter HYDROLAB Serial Number #R41041 Sample Notebook 7, 53 D.O. Meter HYDROLAB Serial Number #R41041 Sample Notebook 7, 53 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	١						41872	015	1.2	<u> </u>		7.85	
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be < 0.33 foot SAMPLE PARAMETERS 9xVOCs	1000	1005 Collect Scaple											
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be < 0.33 foot SAMPLE PARAMETERS 9xVOCs 6xSVOC's 6xPCBs 6xPEST 3xD.MERC. 3xD.Metals SAMPLE RATE 1													
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be < 0.33 foot SAMPLE PARAMETERS 9xVOCs 6xSVOC's 6xPCBs 6xPEST 3xD.MERC. 3xD.Metals SAMPLE RATE 1	·										ļ		······································
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be < 0.33 foot SAMPLE PARAMETERS 9xVOCs				_	ļ								
SAMPLE RATE I LIM	Purge rate Drawdow	n shall be <0.33	foot	<u> </u>		L	<u> </u>		·	.			
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Condition of Well: Remarks: FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41041 Turbidity Meter HYDROLAB Serial Number #R41041 Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 Interface Probe SOLINST Serial Number #R25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #800320 Pump GEO-PUMP Serial Number BA0041	9x	VOCs	6xSVO	C's	6xP0	CBs	6xPE	ST	3xD.MERC.	3xD.N	letals		
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Good Remarks: Stigut N.25 odov FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41041 Number of Bottles 9X40mLV Temperature Meter HYDROLAB Serial Number #R41041 18x1LA Turbidity Meter HYDROLAB Serial Number #R41041 3X1LP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 5x250mLP ORP Meter HYDROLAB Serial Number #R41041 Field Notebook Para Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 Field Notebook Para Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 Interface Probe SOLINST Serial Number #R41041 Interface Probe SOLINST Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	SAMPLE	RATE	•							1	· · · · · · · · · · · · · · · · · · ·	<u> </u>	
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for NOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Cond Remarks: Situat M25 odov FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #R41041 Number of Bottles 9X40mLV Temperature Meter HYDROLAB Serial Number #R41041 3X1LP Turbidity Meter HYDROLAB Serial Number #R41041 3X1LP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 Field Notebook P3 .5 3 D.O. Meter HYDROLAB Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 D.O. Meter HYDROLAB Serial Number #R41041 Interface Probe SOLINST Serial Number #R41041 Interface Probe SOLINST Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	e /	Har	.40	14	,4	c/m	.40	-/m	, 4 Ym	.4	c/41		
PH Meter HYDROLAB Serial Number #R41041 Number of Bottles 9X40mLV Temperature Meter HYDROLAB Serial Number #R41041 18x1LA Turbidity Meter HYDROLAB Serial Number #R41041 3X1LP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 53X250mLP ORP Meter HYDROLAB Serial Number #R41041 Field Notebook PG 753 D.O. Meter HYDROLAB Serial Number #R41041 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	Sample r Sample r Condition	ate for non-VOCs	alysis = 0.1 - 0.2 s analysis = pun	! L/minute ge rate =	0.2 - 0.5 L/m	ninute							
Temperature Meter HYDROLAB Serial Number #R41041 3X1LP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 3X250mLP ORP Meter HYDROLAB Serial Number #R41041 Field Notebook PG / S 3 D.O. Meter HYDROLAB Serial Number #R41041 Interface Probe SOLINST Serial Number #R25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041				_				- 44-044					
Turbidity Meter HYDROLAB Serial Number #R41041 3X1LP Spec. Elec. Cond. Meter HYDROLAB Serial Number #R41041 3X250mLP ORP Meter HYDROLAB Serial Number #R41041 Field Notebook PG / 53 D.O. Meter HYDROLAB Serial Number #R41041 Field Notebook PG / 53 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	•	***************************************		~						Number of	Rotties		
Spec. Elec. Cond. Meter _ HYDROLAB Serial Number _ #R41041 3X250mLP ORP Meter _ HYDROLAB Serial Number _ #R41041 Field Notebook _ PG , SG D.O. Meter _ HYDROLAB Serial Number _ #R41041 Field Notebook _ PG , SG Interface Probe _ SOLINST _ Serial Number _ #25582 Sample Method _ Low Flow PID/OVA _ MINI-RAE _ Serial Number _ #00320 #00320 Pump _ GEO-PUMP _ Serial Number _ BA0041 BA0041	•										 		
ORP Meter HYDROLAB Serial Number #R41041 Field Notebook PG / 53 D.O. Meter HYDROLAB Serial Number #R41041 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	•												
D.O. Meter HYDROLAB Serial Number #R41041 Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041	•			ULAB								3X250ml	<u>_P</u>
Interface Probe SOLINST Serial Number #25582 Sample Method Low Flow PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041									 	Field Notel	book Pc	723	
PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number BA0041								 -					
Pump GEO-PUMP Serial Number BA0041								Sample Me	ethod <u>Lov</u>	Flow			
	_												····
Filter Apparentus CEO 4F MICRONI						Serial I	vumberB	A0041					VV U



TETRATECH FW, INC. LOW-FLOW GROUNDWATER **SAMPLING DATA SHEET**

Page	1 of	_1
Data	11/9/04	

														
Well Nan	ne <u>W1-19</u>				Screen	Interval	14-19							
Project _	CTO 86-Site	1.							Immiscible	Phases Pi	recent [Type X No		
Project N	o. <u>1990.0</u>	86E			Static V	Vater Level (f	rom TOC)	Time 5,40/073	c) 5.	40/073	0 <.40	7 0030		
Well Loca	ation <u>Moffett</u>	- Site 1			Average	e Water Leve	(from TOC	5.40	Immiscible Phases Present Yes No					
Sample I	Date US	24			-		•		PID Readings (background)					
Sampling	Personnel _	D. HARRIS	SON						PID Readir	igo (Daoligi ig (TOC)	SOAN EFF			
		M.RAMOS							Notes	ig (100)_	Oppor			
				· · · · · · · · · · · · · · · · · · ·	Well De	enth MEAS	11.70	RPTD	Foot of Mo					
Sample 1	D 86-S1-05	8						·· · · · · · · · · · · · · · · · · · ·	reel of vva	.er	·			
1 -	e ID <u>N/A</u>				Depth of Bottom of Tubing 16.5 Depth to Water (w/ Tubing in Well) 5.40									
					Вериго	Deput to water (w/ Tubing in well) 3 . 10								
<u></u>	· · · · · · · · · · · · · · · · · · ·					· · · · · · · · · · · · · · · · · · ·	PURGING							
Time	Discharge Dissolved Rate¹ Oxygen Eh/OR Time (L/min) (mg/L) pH (mV)				Temp.	Specific Conduct. (µmhos/cm at °C)	Turbidity (NTU)	Cumulative Volume of Water Removed/Purged (Gallons)	PID/OVA	Reading Value	Depth to	Comments		
1052	,t)	0.46	6.63	300	16.51	93998		(Garons)	Location	value	Water ² (ft)	Comments		
1055	44	0.28		294	11:17	92962	27	J			5.43			
1058	,4	023	661	288	1694	91570	2 2		····		5.46			
1001	.4	0.19		283	1703	91940	1.3	. 6			5,47			
1103	.4	0.18		281		1111	117	,8			5.48			
1106	.4	0.18	664		17.21		0.6	1.0			5,50			
1110	Collect			LSC	1121	91916	1.1	1.2			5.50			
///0	COTIFEA	Sample.				ļ	-							
			 											
			-	 		ļ								
			-											
Notes:			L	<u> </u>	L	L					L1			
_	e = 0.2 - 0.5 L/mi n shall be <0.33													
SAMPLE	PARAMETE	RS												
3x =x	3VOCs	2xSVQ	C's	2xP0	CBs	2xPE	ST	1xD.MERC.	1xD.Metals					
SAMPLE	· · · · · · · · · · · · · · · · · · ·	,						TABINETO:	1,70.11	Clais	<u> </u>			
.) (-lus	.4 4	us.	,40	la	, 4 4	40	. 4 c/cy	.46	<i>lu</i> .				
Notes:	· · · · · · · · · · · · · · · · · · ·				7-1	<u> </u>	001	7 900	6/2	141	<u> </u>			
Sample r Sample r	ate for VOCs and ate for non-VOCs	lysis = 0.1 - 0.2 analysis = purg	L/minute ge rate =	e 0.2 - 0.5 L/m	ninute									
Condition	of Well:(sood												
Remarks	VOC	Camples.	off	toves	ed 1	Metals +	Mevce	were fiel	d Filter	red.				
	QUIPMENT	,												
pH Meter		HYDROLAE			Serial N	lumber #	R41041		Number of	Bottles	2X1LA			
•	ure Meter	HYDROLA			Serial N		R41041				6X1LA			
Turbidity		HYDRO			Serial N	lumber#	R41041				1X1LP			
	c. Cond. Met		OLAB		Serial N		R41041				1X250mL			
ORP Met		DROLAB_			Serial N		R41041		Field Noteb	ook 損	5. 44 t	45		
D.O. Met		DROLAB			Serial N	lumber#I	R41041			.,7				
	Probe <u>SOI</u>	INST			Serial N	lumber #2	25582		Sample Me	thod <u>Low</u>	Flow			
PID/OVA		II-RAE			Serial N	iumber <u>#(</u>	00320							
Pump		O-PUMP			Serial N	lumber <u>B</u>	A0041		·					
Filter App	aratus <u>G</u>	EO45 MIC	RON			·			Discharge '	Water Con	itainerized	X Yes No		



TETRATECH FW. INC. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

Page _	_1 of _	_1
Date _1	11/8/04	

	-								
Well Name W1-22	Screen Interval N/A								
Project <u>CTO 86-Site 1.</u>	Station Elevation GND _		Immiscible Phases P						
Project No1990.086E	Static Water Level (from TOC) /	Static Water Level (from TOC) / Time 3.15 / 0804 3.15 / 0805 3.15 / 0806							
Well Location Moffett-Site 1	Average Water Level (from TOC)			7					
Sample Date il 9 89	Reference Point TOC		PID Readings (background)						
Sampling Personnel D. HARRISON	Reference Elevation		PID Reading (TOC)	10000					
M.RAMOS	Static Elevation		Notes	Oppin					
	Well Depth MEAS \dot{Q}_{s} \dot{Q}_{s} R	DTD							
Sample ID 86-S1-062	Donth of Pottom of Tubing	5.00	reet of vvalet						
Duplicate ID N/A		Depth of Bottom of Tubing 5,00							
Duplicate ID N/A	Depth to Water (w/ Tubing in We	ell) <u>3.75</u>							
	PURGING								
	Specific	Cumulative							
Discharge Dissolved	Conduct.	Volume of Water	PID/OVA Reading						
Rate ¹ Oxygen Eh/ORF	P Temp. (µmhos/cm Turbidity	Removed/Purged		Depth to					
Time (L/min) (mg/L) pH (mV)	(°C) at °C) (NTU)	(Gallons)	Location Value	Water ² (ft) Comments					
1955 . 4 0.52 646 231	1867 60233 140	, 2		3.78					
7958 14 0.42 6.46 226	18.93 59670 25.6	, ý		2.83					
1001 ,4 0,31 649 221	1957 57927 11.9	. 6		3.85					
1004 4 029 650 219	19.99 57383 11.41	.8							
1007 14 0-27 650 217	20)5 57053 7.6	1.0		3.89					
				3,91					
	205057042 6.9	1.2		3, 73					
1015 Collect Sample									
		· · · · · · · · · · · · · · · · · · ·							
			<u> </u>						
Notes: 1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot									
SAMPLE PARAMETERS									
3XVOCs 2xSVOC's 2xF	PCBs 2xPEST	1xD.MERC.	1xD.Metals						
SAMPLE RATE									
.1 C/as .4 C/as .4	1 L/m . 4 L/m	.4 Um	.4 C/u						
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L Condition of Well:			00 / /	GU GU					
	-5 odor, voc samples o	werversed.	Metals + Merc	were field filter					
FIELD EQUIPMENT									
pH Meter <u>HYDROLAB</u>	Serial Number #R41041		Number of Bottles	3x40mLV					
Temperature Meter <u>HYDROLAB</u>	Serial Number #R41041			6X1LA					
Turbidity Meter HYDROLAB	Serial Number #R41041			1X1LP					
Spec. Elec. Cond. Meter <u>HYDROLAB</u>	Serial Number #R41041			1X250mLP					
ORP Meter HYDROLAB	Serial Number #R41041		Field Notebook	9, 48					
D.O. Meter HYDROLAB	Serial Number #R41041			J					
Interface Probe SOLINST	Serial Number #25582		Sample Method Lov	v Flow					
PID/OVA MINI-RAE	Serial Number #00320		•						
Pump GEO-PUMP	Serial Number BA0041								
Filter Apparatus GEO45 MICRON			Discharge Water Co	ntainerized X Yes No					



Page	1of	_1
Doto	11/8/04	

													
Well Nan	ne <u>W1-23</u>				Screen	Interval	n/a						
Project _	CTO 86-Site	1.						TOC .	Immiscible	Phacae Pr	recent [Yes X No	
Project N	o. <u>1990.0</u>	86E			Static Water Level (from TOC) / Time 5.35 / 6754 5.35 / 6755 5.35 / 6756								
	ation Moffett				Average	Water Level	(from TOC	3) S 35	~ 	10		70120	
	Date NA							7.2	PID Readings (background)				
Sampling	Personnel_	D. HARRIS	ON						PID Readin	gs (Dacing) or (TOC)	OAA.		
		M.RAMOS				levation			Notes				
					Well De	epth MEAS /	(0)	PPTD 60			. 7112		
Sample I	D 86-S1-05	9			Denth o	of Bottom of T	uhina	₹.3≤	reet of wa	.ei			
	e ID N/A					o Water (w/ T							
					Depart	o vvaler (vv i	dbirig iii vv	eii) <u>773</u>			· · · · · · · · · · · · · · · · · · ·		
							PURGING						
Time	Discharge Rate ¹ (L/min)	Dissolved Oxygen (mg/L)	рН	Eh/ORP (mV)	(°C)	Specific Conduct. (µmhos/cm at °C)	(NTU)	Cumulative Volume of Water Removed/Purged (Gallons)	PID/OVA Location	Reading Value	Depth to Water ² (ft)	Comments	
1240	,3	2.13	707	387		100 000t		. !			5,42		
1243	، 3	197	709	386	19.63	100 000t		12			5.59		
1246	13	157	709	387	1966	100 000+		.4			5.64		
1249	،3	150		387	19.64	100 00t	15.0	,5			5.73		
1252	. 3	143	710	387	1952	100.000+	14:3	16			5.80		
1255	,3	1.42	710	386	1934	100.000t	207	,7			5.84		
	Trench	RAN DA	У										
			<u> </u>				<u> </u>						
ļ													
Ļ			<u> </u>	<u> </u>	<u> </u>								
2. Drawdow	e = 0.2 - 0.5 L/mi m shall be <0.33	foot		•									
2X	SVOCs	2xSVO	C's	2xP(CBs	2xPE	ST	1xD.MERC.	1xD.M	letais		T	
SAMPLE	RATE								1,7,5,11	10(410	<u> </u>		
				l ·		l			<u> </u>		T		
2. Sample r	ate for VOCs and ate for non-VOCs of Well:	analysis = pur	ge rate =	0.2 - 0.5 L/n		s odvěd							
FIELD E	QUIPMENT	/											
pH Meter		HYDROLAE	3		Serial N	lumber #	R41041		Number of	Bottles	2X1LA		
•	ture Meter				Serial N		R41041				6X1LA		
· · · · · · · ·	Meter	HYDRO					R41041				1X1LP		
•	ec. Cond. Met						R41041	to an include the same of the			1X250ml	_P	
ORP Me		DROLAB					R41041	· · · · · · · · · · · · · · · · · · ·	Field Notes	ook Pa	.49		
D.O. Met		DROLAB					R41041			-, 4	· · · · · · · · · · · · · · · · · · ·		
	Probe SO						25582		Sample Method <u>Low Flow</u>				
PID/OVA		N-RAE	,				00320		Cample Method LOW Flow				
Pump		O-PUMP					A0041						
Filter Apparatus GEO45 MICRON											X Yes No		



Page	_1 of	_1_
Date_	11/8/04	

				 ,									
Well Nan	ne W1-24				Screen	Interval	6-16						
	CTO 86-Site	1.			Station Elevation GND TOC Immiscible Phases Present Yes _No Static Water Level (from TOC) / Time 7.83/0827 7.83/0828 7.83/0829 Average Water Level (from TOC) 7183								
	o. <u>1990.0</u>				Static W	/ater i evel /fr	om TOC) /	Time 7.83/08	スフ フ.º	21082	28 7,8	3/0828	
=	tion Moffett				Average	Water Level	(from TOC	7183		-/-	77.3	7	
	Date				Referen	ce Point T	(110111 1 0 C	, <u> </u>	PID Readings (background) <u>Oppu</u>				
	Personnel_		ON					·	DID Doodin	gs (Dacky)	OM.		
Camping		M.RAMOS	-		Reference ElevationStatic Elevation					g (10c)_	Office		
		INITIALIOS						DTD	Notes				
CIo I	D 86-S1-06	7			Well Depth MEAS 20, 26 RPTD Feet of Water Depth of Bottom of Tubing								
1 .	_												
Dupncau	e ID <u>N/A</u>				Depth to	o water (w/ i	ubing in vv	ell) 7.83					
							PURGING			·····			
Discharge Dissolved Rate¹ Oxygen (L/min) (mg/L) pH (mV) 0850 . 4 0.62 6.53 2.05 0856 . 4 0.32 6.54 191					(°C) 15.39 15.30 18.71	at °C) 86072 86025 82022	Turbidity (NTU) 2.9 2.0 1.8	Cumulative Volume of Water Removed/Purged (Gallons) , 2 , 4	PID/OVA	Reading Value	Depth to Water ² (ft) 7.85 7.87 7.89	Comments	
0859	. 4	0.31		187	1532		3.1	,8'			7,90		
0902	. 4	0.30	643	186	1529	81460	5,3	1.0			7.90		
0405	Collect	Sounde											
			<u> </u>										
<u></u>													
							4						
				<u> </u>					l	<u> </u>			
_	te = 0.2 - 0.5 L/m m shall be <0.33												
SAMPLE	PARAMETI	ERS											
3>	(VOCs	2xSVO	C's	2xP	CBs	2xPE	EST	1xD.MERC.	1xD.N	/letals			
SAMPLE	RATE			\$			And St.						
a /	UM	.40	lar	64	Ular	.4 6	1/11	.4 Yan	.4 L	lui			
2. Sample of Condition	rate for VOCs and rate for non-VOCs on of Well:	s analysis = pur	ge rate =	= 0.2 - 0.5 L/r	·····	Sonples	efferv	ecsed.					
FIELD E	QUIPMENT												
pH Mete		HYDROLA	В		Serial I	Number #	R41041		Number of	Bottles	3x40mlV		
•	ture Meter	_					R41041				6X1LA		
•	Meter	HYDRO					R41041	····	-		1X1LP	·····	
•	\						R41041	***************************************			1X250m	LP	
Spec. Elec. Cond. Meter HYDROLAB ORP Meter HYDROLAB							R41041	· · · · · · · · · · · · · · · · · · ·	Field Notel	book Pa			
D.O. Meter HYDROLAB D.O. Meter HYDROLAB							R41041		, 1912 110101		,		
							25582	·····	Sample M	ethod Lov	v Flow		
	Interface Probe SOLINST PID/OVA MINI-RAE						00320		Sample Method <u>Low Flow</u>				
Pump		O-PUMP					3A0041		••			***************************************	
	paratus <u>G</u>		PON		OCHE!		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		Discharge	Water Co	ntainerized	X Yes No	
i itei Aþ	hararna	LU-, TO IVIT	WOLK						Distribute		, ioi lecu	ு.~`ப‴	







	1	- 25							
Well Name	Screen Interval 15	CND TOC I	nmiscible Phases Pre	sent TY	'es 🔲 No				
Project CTO 86	Station Elevation	Screen Interval 70 GOD TOC Immiscible Phases Present Yes No Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 1108 - 5.49 1109 - 5.50							
Project No. 1990.086E	Static Water Level (from	Static Water Level (from 100) Time 1708							
Well Location MOFFETT- SITE 1	_ Average Water Level (fr	Average Water Level (from TOC) CSO PID Readings (background) 6-PPM Peferone Point TOC							
Sample Date 7-7-04		relative form							
Sampling Personnel B. (39/e	Reference Elevation		AD Reading (100)						
M. Rhmos	Static Elevation		Notes						
	Well Depth MEAS 2	<u> </u>	Feet of Water						
Sample ID 86-5/-0/7	Depth of Bottom of Tub	ing &O							
Duplicate ID NA	Depth to Water (w/ Tut	ing in Well)							
Duplicate in	PI	RGING							
									
		Cumulative							
	Specific Conduct.	Volume of Water	PID/OVA Reading						
Discharge Dissolved	1 1 1			Depth to					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	''' ' "	(NTU) (Gallons)	Location Value	Water ² (ft)	Comments				
Time (L/min) (mg/L) pH (m	/ ` / 	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		5.50 -	5.5				
1110 .4 .80 6.16 -17	/ 2/0/ / 5/	6.7 ,2		5.51					
1113 4 52 6.14-14	5 25.07 41544			5.51					
1116 .4 .46 612-13	8 25.42 42276			5.52					
1119 4 37 6.10-13				5.51					
1122 .4 .26 6.19-1	8 25.06 42753	3.		5.52					
1125 4 30 6.60-1	3 25.01 42650	3.0 1.5		5.51					
1178 4 129 6.10 -1	32 24.99 42699	2.9 1.8	 	5.50					
1131 .4 .28 6.11 -1	32 25.00 42708	3.0 2.1	 	13.30-1-					
// GC 1.7				 					
									
			<u> </u>	<u></u>					
Notes:									
1. Purge rate = 0.2 - 0.5 L/minute									
2. Drawdown shall be <0.33 foot									
SAMPLE PARAMETERS									
2x SVOCs IX D. Hg									
SAMPLE RATE			T						
,4 ,4			J.,,						
Notes:									
 Sample rate for VOCs analysis = 0.1 - 0.2 L/minute Sample rate for non-VOCs analysis = purge rate = 0.2 - 	0.5 L/minute								
_			<u> </u>						
Condition of Well: 600	revry was	Field Filtere	d/						
Remarks: Disolved 17e									
FIELD EQUIPMENT			Number of Bottles	3					
pH Meter HYDROLAB	Serial Number	043	Number of Bottleb						
Temperature Meter HYDROLAR	Serial Number 4	1047							
Turbidity Meter LA MOTTE	Serial Number	1034	Field Notebook	Pa. 23					
Spec. Elec. Cond. Meter HYD ROLAB	Serial Number 4	1042	LIGIT MOTEROOK	J					
ORP Meter HYDROLAS	Serial Number	1045	Sample Method _	LOW FL	مىں				
D.O. Meter HYSROLAB	Serial Number	1045	Sample Michiga						
Interface Probe SOLINST	Serial Number 2	2 <u>2 x 5</u>							
PID/OVA MINI-RAS	Serial Number	00320							
Pump G.EA - PUMP	Serial Number Pt	NE 2443	Discharge Water		Yes N				
	Dicebarge Minter	Containerzeo	/ / 100 1						



Page / of /
Date 7-6-04

Well Nam	re W -	5			Screen I	nterval	4.5 ~	19.5				- 5-d
	cto 8				Station F	Station Elevation GND TOC Immiscible Phases Present Yes X N Static Water Level (from TOC) / Time 1205-5.51 1206 - 5.50 1207 - 5.51						Yes X No
Project No	0. 1990 .	0866	<u> </u>		Static W	ater Level (fr	om TOC) /	Time 1205-5.5	51 12	.06 - 5.	50 120	1 -5.51
Well Loca	tion MoF	FETT-	S11	<u>e</u> 1	Average	Water Level	(from TOC	5.51				
Sample [Date 7 - (6-04			Referen	ce Point	TOC		PID Readin	gs (backg	round) <u> </u>	ppm
	Personnel_		e		Referen	ce Elevation			PID Readin	g (TOC) _	C) 30	<u>m</u>
	_		mos		Static E	levation			Notes		[]	
					Well De	pth MEAS 2	1.32 F	RPTD	Feet of Wa	ter		
Sample I	o <u>86-</u>	51-0	26		Depth o	f Bottom of T	ubing/	7				
	e ID	N/A			Depth to	Water (w/ T	ubing in W	ell) <u>5.50</u>				
						F	PURGING				1	
						Specific Cumulative			DID (0) (4	D		l
	Discharge	Dissolved	1			Conduct.		Volume of Water	PID/OVA	Reading	Double to	
	Rate ¹	Oxygen		ENORP		(µmhos/cm		Removed/Purged		Value	Depth to Water ² (ft)	Comments
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value		Comments
1207	4	.80	6.55	-128	27.83	48150	4.2			 	5.50	
1210	.4	.40	656	-146	27.20	49099	3.7	.5	<u></u>		5.51	
1213	.4	.32	6.57		26.92		3.2	.8			5.50	
1216	,4	.27	6.58	-163	2658	52000	3.1	1.0			5.52	
1219	.4	.24	6.57		4	5/370	3.0	1.3			5.51	
1222	.4	, 23	657	-168	26.27	51410	3.1	1.5			5.52	
1225	. 4	.23	657	-171	26.25	51266	3.0	1.8		<u> </u>	5.50	
					<u> </u>					ļ		
				1								
					<u> </u>					ļ		
			<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u></u>	<u> </u>	
Notes:		inuto										
•	te = 0.2 - 0.5 L/m vn shatl be <0.33											
SAMPLE	E PARAMET	ERS										
	SVOCs	1x0.1	40	T								
SAMPLI			1		······································	<u> </u>						
. 4		.4		1							<u> </u>	<u></u>
Notes:				1								
1. Sample	rate for VOCs an rate for non-VOC	alysis = 0.1 - 0.: 's analysis = nu	2 L/minu roe rate :	te = 0.2 - 0.5 L/	minute							
		_ 1	igo idao	0.2 0.0 0				4				
		Sood,				1		d Filteren				
Remarks	s: Disol	nea L	ten	wrq_	Sour	de ma		a me				
FIELD E	QUIPMENT	1		\mathcal{O}	'	/1	1045	_			√ 3	
pH Mete		wap			Serial I	Number	1073	-	Number o	Bottles _		
	ature Meter _					Number	F1045					
	Meter					Number	203	<u></u>		book P	0 19	
	lec. Cond. Me	1 11	rola.	<u>b</u>		Number	F104	3	Field Note	nook	7 '-	
ORP Meter Hydrolas						Number	1104	<u></u>	Sample M	athed 1	ow Fr	(ین
	ter 17 yld					Number	1104	2	Sample M	eurou	~ <u>~ 1 f.</u>	,
Interface	e Probe 📆					Number	<u> </u>					
PID/OV	· ·	1-Rae		····			0320	744.2				
	Geo-Pi		11-	 .		Number	INE	<u> </u>	Discharge	Water Co	ontainerized	X Yes No
Filter Ar	onaratus (*	2es − .	45	MICH	(V)				DISCHARA	ATOLC O	or roun rot lecod	二 "



Page_	of_	/
Nate	7-6-	04

Well Name W - 8					Screen Interval /3-/8						7v 171 No		
Project	CTO 86			<u>_</u>	Station 6	Elevation	GND_	TOC	Immiscible I	Phases Pr	esent	Tyes KT No	
Project No	. <u>1990</u>	086E			Static W	Streen Interval 75-76 Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time ///5 5.52 ///6 5.50 ///7 5.51 Average Water Level (from TOC) 5.57							
Well Loca	tion <u>Mo</u> F	FETT -	SITE	- /	Average	Water Level	(from TOC)_5,3/					
Sample D	ate <u>7-6</u>	5-04			Referen	ce Point	TOC		PID Readings (background) — ppm				
Sampling	Personnel	B.00	le		Referen	ce Elevation_						ppm_	
		/1/	mo	<u>.</u>	Static Flevation Notes								
			-		Well Depth MEAS 22.60 RPTD Feet of Water								
Sample	n 86-5	1-02	7		Depth of Bottom of Tubing 15.5								
Sample ID 86-51-027 Duplicate ID W/A					Depth to	Water (w/ T	ubing in W	ell) 5.50					
Duplicate	. 10	/ ' ' 				Depth to Water (w/ Tubing in Well) 5.50							
				1		- F	PURGING						
						Specific Cumulative				Reading			
	Discharge	Dissolved				Conduct. Volume of Water Temp. (µmhos/cm Turbidity Removed/Purged					Depth to	1	
	Rate ¹	Oxygen		ENORP			•	Removed/Purged (Gallons)	Location	Value	Water ² (ft)	Comments	
Time	(L/min)	(mg/L)	pН		(°C)	at °C)	(NTU)		Loodien	V	5.51		
1122	,4	1-11	665			44373	3.8	, 3	 		5.50		
1125	، ٮٳ	.56	6.66		26.49			.6	 		5.50		
1128	.પ	130	6.68	+ * -	2635	44327	2.6	1.0			5.52		
1131	.4	,25	6.68		26.12			1.2		<u> </u>	5.50		
1134	.4	,21		37		44640		1.5	 	├ ──			
1137	.4	.21	6.68	36		44626		1.8	<u> </u>		5.52		
1140	.4	22	668	37	26.15	44777	2.7	2.1			5.50		
										<u> </u>			
									<u> </u>		<u> </u>		
							<u> </u>		<u> </u>	<u></u>	<u> </u>		
Notes:	L	A											
•	te = 0.2 - 0.5 L/m vn shat! be <0.33												
	PARAMET		-	T		Τ			T				
	SVOCs	1 x D. F	<u>19 </u>	<u> </u>		<u> </u>		<u> </u>	<u></u>				
SAMPLI	ERATE		-	т		1			T				
Neteri		<u> </u>				<u> </u>		<u> </u>					
Notes: 1, Sample	rate for VOCs an	alysis = 0.1 - 0.1	2 L/minu	ıte									
2. Sample	rate for non-VOC	s analysis = pu	rge rate	= 0.2 - 0.5 L/	minute								
Conditio	n of Well:	·. G	ood					, , , , , , , , , , , , , , , , , , , ,					
Remarks	•	ved 1	1ers	ury	wa	s Field	d Fil	tered	<u>-</u>				
EIEI DE	QUIPMENT			/				_			~		
pH Mete	11	Irolab			Serial	Number 4	1045		Number o	f Bottles _	<u> </u>		
•	ature Meter	1 1	r p			Number 4	-1045	_					
	Meter Le		ري ــــــــــــــــــــــــــــــــــــ				02-03	2-			. 10		
	iec. Cond. Me		mba	P	Serial	Number 4	1045	<u> </u>	Field Note	book/	og 19		
	eter Hyd		and factor			Number	1049	5			<u> </u>		
D.O. Me	- i il	dolab				Number 4	104	5	Sample M	lethod	-0W F	low	
Interface		diast				Number	2558	32					
PID/OV						Number C	0032	<u>-</u>					
	Geo - 1	2 m C				Number	SINE.	2443				а. п.	
Pump _	maratus G	PO -	45	MIC	200				Discharge	e Water C	ontainerized	Yes No	



Well Nam		12R			Screen I	nterval	5-23				. г			
Project	CTO 8	6			Station Elevation GND TOC Immiscible Phases Present Yes \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \									
Project No	. 1990	<u>5.086</u>	sE_		Static W	ater Level (fr	om TOC) /	Time 1435 - 2.	<u>92 /9</u>	36-2:	92 14	31-2.92		
Well Loca	tion <u>MoF</u>	FETT -	SIT	<u>-e_1</u>	Average	Water Level	(from TOC	2.92						
Sample D	ate <u>7-6</u>	-04										-ppm_		
Sampling	Personnel	BIOGI	ع.		Referen	ce Elevation			PID Readin	g (TOC) _	-0- pp	m'		
	_	M. RA		2	Statio El	loyation			Notes		<u> </u>			
		4_4_			Well De	oth MEAS	5.65 F	RPTD	Feet of Wa	ter				
Sample II	<u>86-9</u>	7-0	24		Denth of	f Bottom of T	ubina 2	0'						
Duplicate		V.A.				Water (w/ T								
Duplicate		V. 77.			Берити									
							PURGING							
							1							
						Specific		Cumulative	DIDIOVA	Dooding	Ì	1		
	Discharge	Dissolved	•	l		Conduct.		Volume of Water	PID/OVA	Reading	Depth to	ļ		
	Rate ¹	Oxygen		EM/ORP	. I	(μmhos/cm		Removed/Purged		Value	Water ² (ft)	Comments		
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value		Comments		
1437	.4	.85	6.52	-20	28.37	55707	12_	. 3	<u> </u>		2.92			
1440	.4	.66	6.52	-19	28.38	54129	9.2	٠,٢			2.94			
1443	.4	.36	6.52	-19	28.08	53776	7.2	1.0			z.94			
1446	.4	.38	6.53	-18	27.09	54099	6.0	1.3			2.93			
1449	.4	.40	6.53	-17	26.86	53308	3.8	1.6			292			
1452	.4	.38	653		26.91	53290	37	1.9			2.92			
1455	4	138	6.53	-18	26.77	53500	3.6	2.2			2.93			
7.03														
										<u> </u>				
ļ		 	†	 										
			1	-										
Notes:	L	·	<u> </u>	4	1		<u></u>							
-	e = 0.2 - 0.5 L/m													
2. Drawdow	m shall be <0.33	toot												
SAMPLE	PARAMET							1	т					
2x:	SVOCs	120:	Ha	<u> </u>		<u> </u>		<u> </u>	<u> </u>					
SAMPLE	RATE		<u>၂</u>			,					T			
	4	.4				<u> </u>		<u> </u>			<u> </u>			
Notes:	rate for VOCs an	alveis = 0.1 - 0	21 /minu	te										
2. Sample	rate for non-VOC	s analysis = pu	rge rate	= 0.2 - 0.5 L/	minute									
	n of Well:	Good												
Remarks			100	CUCY	53	mple i	S Fie	1 Filter	ed_					
Remains	. <u> </u>	1000	16~1	201.0		- Pl			- 1					
	QUIPMENT	1 1		,	•	. ,	41045	-	Number o	f Pottion	.3			
	r <u>Hyd</u> y		-						Mumber o	i bomes				
	ature Meter_						+1045							
Turbidity	Meter	3MOT7	- <u>E</u>				<u>)203</u>		Ciold Mate	book A	20			
Spec. El	lec. Cond. Me	eter Hyd	pla.	p		Number4	11045		Field Note	POOR 17	1 2			
ORP Me		drolate				Number	1045	<u></u>	0	lettered T	OLD ET	<u> </u>		
D.O. Me	ter 17 d	drolal					104	<u> </u>	Sample M	etnod _ <u> -</u>	ow Ho	<u> </u>		
Interface	e Probe <u>Sd</u>	dinst					2558			<u> </u>				
PID/OV	MINI A	-Rae	<u>. </u>	· · ·		Number		20112						
Pump (<u> Seo-f</u>	AMOU	 ,		Serial	Number _ F	INE :	2443	D: -!	\\/-t \C	ntain arina d	Yes No		
Filter Ap	paratus <u>E</u>	ieol	4	5 M	scre	M			Discharge	e vvaler Co	ontainerized	₩ □ W		

TETRATECH FW, INC		TE	TETRATECH FW, INC
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Page	of
Date	

roject <u>(</u>	e W -					nterval <u>4.</u>	0110	TOC	Immissible !	Dhacec Pro	esent [Yes No
	TO 86	03/ 6		'	Station E	levation	GND_	TOC		70_/	76 154	75.52
roject No	1990.	<u>0865</u>	.	 :	Static W	ater Level (fre	om TOC)/	Time <u>/538~5</u>	16 70	37-31	//b	7 0770
	tion <u>MoF</u>		<u>>17e</u>	3	Average	vvater i evel	ittom 100	1 0.76			ound) 	
ample D	ate <u>7-6</u>	-04_										
Sampling f	Personnel	B.Qq	<u>ie</u>			· -					0-p	9177
		M. Kal	MO?	<u>-</u>					Notes			
									Feet of Wat	er		
Sample II	B6-3	SI-02	-2_		Depth of	Bottom of To	ubing <u>9</u>	. (
Duplicate	10 <i>8</i> 6-	SI-08	<u> </u>		Depth to	Water (w/ T	ubing in W	ell) <u>5.73</u>	<u> </u>			
							PURGING					
				· · · · · · · · · · · · · · · · · · ·	1	r	OKOMO		I			
						0 .:5-		0				
						Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Discharge	Dissolved		Et/ORP	Temn	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
	Rate ¹	Oxygen	mLJ		(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
Time	(L/min)	(mg/L)	pH	(mV)		48 766	5.6	. 3			5.76	
1540	.4		6.61		28.13		4.4	. 6			5.76	
153/3	.4	,99	6.61	-108			3.7	1.0			5.76	
1546	.4	131	6.61			50 70%					5.75	
1549	,4	,25	6.61			53482		1.5			5.76	
1552	. 4		6.61			54600	3.7	1.8			5.76	
1555	.4	122	6.59	-/26	23.62	54710	3.7	7,0	 	 	0.72	
			↓									
			↓ —		<u> </u>					<u> </u>		
			↓	 	<u> </u>		<u> </u>		 -			
			↓	<u> </u>	<u> </u>		 		-	 		
			上	<u></u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	
Notes:	e = 0.2 - 0.5 L/m	inute										
	n shall be < 0.33											
										_		
2. Drawdow		ERS										
2. Drawdow SAMPLE	PARAMET		Ha	Τ		T					<u> </u>	
2. Drawdow	PARAMET	ERS // X D.	Ha								<u></u>	
2. Drawdow SAMPLE	PARAMET		На									
2. Drawdow SAMPLE SAMPLE	PARAMET SVOCS RATE 4	1x D.	J									
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample in	PARAMETI SVOCS ERATE 4	1 × D.	2 L/minu	te = 0.2 - 0.5 1 /	minute						<u> </u>	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r	E PARAMET SVOCS E RATE Frate for VOCs an rate for non-VOC	1 × D.	2 L/minu	te = 0.2 - 0.5 L/	minute						I	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r	PARAMETI SVOCS ERATE 4	1 × D.	2 L/minu	te = 0.2 - 0.5 L/s				11 CHerry			I	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r	PARAMET VOCS RATE Trate for VOCs an rate for non-VOCs n of Well:	1 × D.	2 L/minu	te = 0.2 - 0.5 L/	minute Sow	I	2s fie	I I Ud filter				
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks	E PARAMET SVOCS E RATE Frate for VOCs an rate for non-VOC n of Well: S: V/SO	IXD. Alysis = 0.1 - 0. Is analysis = pu	2 L/minu	te = 0.2-0.5 L/	Son	ple ux	25 Fic	I Id filter	ed			
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks	PARAMET VOCS RATE Trate for VOCs an rate for non-VOC n of Well: S: VSO	IXD. 14 alysis = 0.1 - 0. is analysis = pu Good Ived I	2 L/minu	te = 0.2 - 0.5 L/	Son	number 4	28 Fie	I Id filters	Number o	f Bottles _	12	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks FIELD E pH Mete	PARAMET SVOCS ERATE Trate for VOCs an orate for non-VOC on of Well: S: O/SO COUIPMENT THE TOTAL COUIPMENT	1xD. 14 alysis = 0.1 - 0. is analysis = pu Good Ived Ived I	2 Uminu urge rate :	te = 0.2 - 0.5 L/	So_u Serial	Number 4	25 Fie	I Id filhera		f Bottles	12,	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks FIELD E pH Mete Tempera	PARAMET VOCS RATE Trate for VOCs an rate for non-VOCs of Well: S: VSO EQUIPMENT rature Meter	alysis = 0.1 - 0. s analysis = pu Good Ived Hydrol	2 L/minu urge rate :	te = 0.2 - 0.5 U	So_w Serial Serial	Number 4 Number 4 Number 4 Number 4	1045	02032	Number o		12	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks FIELD E pH Mete Tempera Turbidity	PARAMET VOCS RATE Trate for VOCs an rate for non-VOCs of Well: S: VSO EQUIPMENT of Lydy ature Meter Meter Meter Meter Meter	IXD. 14 alysis = 0.1 - 0. Is analysis = pu COOX Ived Hydrol Hydrol Hydrol	2 L/minu irge rate:	= 0.2-0.5 L/	Serial Serial Serial	Number <u>+</u> Number <u>-</u>	1045				12.	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks FIELD E PH Mete Tempera Turbidity Spec. El	PARAMET SVOCS ERATE Trate for VOCs an of Well: S: O/SO COUIPMENT Trace for Meter Meter	alysis = 0.1 - 0.1 s analysis = pu Good I ved Hydrold Hydrold Hydrold Hydrold Hydrold Hydrold	2 L/minu irge rate:	= 0.2-0.5 L/	Serial Serial Serial Serial	Number <u>+</u> Number <u>-</u> 4 Number <u>4</u>	1045 40%		Number o	ebook	21	
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks FIELD E pH Mete Tempera Turbidity Spec. El ORP Met	PARAMET SVOCS RATE Trate for VOCs an rate for non-VOCs In of Well: S: VSO ROUIPMENT Trace Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter Meter	IXD. 14 alysis = 0.1 - 0. is analysis = pu Goox Ived Hydrol Hydrol Hydrol Hydrol Hydrol Hydrol	2 L/minu irge rate:	= 0.2-0.5 L/	Serial Serial Serial Serial Serial	Number <u>+</u> Number <u>+</u> Number <u>+</u> Number <u>+</u> Number <u>+</u> Number <u>+</u>	1045 1045 1045 1045	02032	Number o	ebook	12, 12,	1)
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks FIELD E pH Mete Tempera Turbidity Spec. El ORP Met D.O. Met	PARAMET SVOCS RATE Trate for VOCs an rate for non-VOCs n of Well: S: VSO ROUIPMENT Trace Meter Meter Meter Meter Hec. Cond. Meter Meter Hecter Meter	alysis = 0.1 - 0.1 s analysis = pu Good I ved Hydrold Hydrold Hydrold Hydrold Hydrold Hydrold	2 L/minu irge rate:	= 0.2-0.5 L/	Serial Serial Serial Serial Serial Serial	Number <u>+</u> Number <u>+</u> Number <u>+</u> Number <u>+</u> Number <u>+</u> Number <u>+</u>	1045 1045 1045	02032	Number o	ebook	21	1)
2. Drawdow SAMPLE SAMPLE Notes: 1. Sample r 2. Sample r Condition Remarks FIELD E pH Mete Tempera Turbidity Spec. El ORP Met	PARAMET SVOCS ERATE Trate for VOCs an rate for non-VOCs In of Well: SCOUIPMENT If LYCH Auture Meter Meter Meter Meter Hec. Cond. Meter Her Hych Prober Prober	alysis = 0.1 - 0.1 s analysis = pu Good I ved Hydrold Hydrold Hydrold Hydrold Hydrold Hydrold	2 L/minu irge rate:	= 0.2-0.5 L/	Serial Serial Serial Serial Serial Serial Serial Serial	Number 4 Number 4 Number 4 Number 4 Number 4 Number 4	1045 1045 1045 1045 1045	02032	Number o	ebook	21	1)



Page _____ of _____

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Well Nam		15			Screen I	nterval <u>4</u>	.4-14	.4			, г	الكا
Project_(CTO 8	6			Station E	Elevation	GND_	TOC Time <u>(018 - 5 ·</u>	Immiscible I	Phases Pro	esent [JYes X No
Project No	o. 1990	.0866	<u> </u>		Static W	/ater Level (fr	om TOC) /	Time 1018 - 5.	84 10	1-3.	102	2-3.07
Well Loca	tion <u>MoF</u>	FETT -	<u>S177</u>		Average	Water Level	(from TOC	0.84				
Sample D	Date 7-7	-04			Referen	ce Point	70C	<u> </u>	PID Reading	gs (backgr	ound)	DDIV.
Sampling	Personnel	B. 06	LE						PID Readin	g (TOC) 3) ppm	1'
		MIRA	MO.	<u> </u>	Static E	levation			Notes			
					Well De	pth MEAS 17	<u>.42</u> F		Feet of Wat	er	 	
Sample I	D <u>8/-S</u>	1-019	8		Depth o	f Bottom of To	ubing	4,4				
Duplicate	e ID <u>81 - S</u>	1-01	9		Depth to	o Water (w/ T	ubing in W	ell) <u>5.83</u>				
						F	PURGING					
			·									
						Specific		Cumulative	DID (O) (A	Dandina		
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	Depth to	
	Rate ¹	Oxygen		EWORP				Removed/Purged	Location	Value	Water ² (ft)	Comments
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	5.84	
1022	,4		6.07			38584		1.5	 		5.85	
1025	.4	.59	6.11			39174	3.2	.7	 		5.86	
1028	.4	.33	6.14	-310	25.12	39571	3.2		-	 	5.85	
1031	.4	129	1	-322	25:11	40861	3.2	1.3	 		5.85	
1034	.4	129	6.15	-323	25:21	40790		1.5		<u> </u>	5.84	
1037	.4	1.28	6.16	-323	25.18	40916	3.2	1,2	 		9 - 0 1	
			 	ļ	 	<u> </u>		 	-			
	<u> </u>		 	<u> </u>			 		+			
	<u> </u>		 	 			 					
	<u> </u>	 	┼	 		 	+					
Notes:	<u></u>	<u> </u>		<u> </u>	1	<u> </u>		<u> </u>				
1. Purge ra	rte = 0.2 - 0.5 L/m											
2. Drawdov	wn shall be <0.33	s foot		t								
	E PARAMET								1		T	
ax s	svocs	lk Det	<u>ta</u>	<u> </u>		<u> </u>			_!		<u> </u>	
	E RATE		<u>၂</u>	т		7			Т			
, C	۲	14		ــــــــــــــــــــــــــــــــــــــ		<u> </u>		<u> </u>	1			
Notes: 1. Sample	rate for VOCs ar	nalysis = 0.1 - 0.	2 L/minu	ite								
	rate for non-VOC		i	= 0.2 - 0.5 L/	minute							
Conditio	on of Well:	<u> 3000</u>	1				1.2	as Fiel	1 F.I.	tored		
Remark	:s: <u>Disol</u>	ved	Me	rcur	' 	Samo,	ie u	MO ITEL	<u> </u>	100		
FIFI D I	EQUIPMENT				J	1		_			2	
	er Hyo		}		Serial	Number 4	1045		Number o	of Bottles _	<u> </u>	
	ature Meter _					Number 4						
	y Meter LA					Number _ O		·	<u></u>		00 02	
Spec. E	lec. Cond. M	eter <u> </u>		B_		Number 4			Field Note	ероок <u>†</u>	7.00	
ORP M	leter <u>H ¥ \$ \$</u>					Number		_	Sample 1	Method L	OW) FE	مىں
D.O. M		ROLAB				Number	1042		Sample N	reurouL	<u></u>	-
	e Probe <u>5</u>					Number 2		<u>-</u>				
	MINI					Number <u>?</u> Number <u>P</u> t		443				
Pump_	GED -1	20 Wb	<u> </u>	M	_ \		<u> </u>	=1_1×)	Dischard	e Water C	ontainerized	Yes N
Fitter A	pparatus <u>C</u>	· - 03p	<u>75</u>	1-11-01	RON	L						



Page _	1	_ of _		
Date 3	7-6	-0	4	

	. (./)	17-			Caraon	Intonesi é	54-	15.4						
	e <u>WI-</u> CTO				Screen Interval 5.4 -/5.4 Station Elevation GND TOC Immiscible Phases Present Yes No									
			<u></u>		Static Water Level (from TOC) / Time 10.00 6.9 10.01 6.91 10:02 6.88									
Project No	. 199	0.086	2 =	<u></u> 1										
	tion MoF		<u>- 21</u>	<u>121</u>				6.90	DID Boodin	ac (backar	round) A	ppm		
	ate <u>7-/</u>													
Sampling	Personnel					-						n		
		M. RAN	<u> 105</u>						Notes Feet of Water					
					Well De	pth MEAS /	<u>8.23</u> F		Feet of vvater					
Sample II	0 <u>86-5</u>	1-02	<u>9</u>		Depth o	f Bottom of T	ubing	70.4						
Duplicate	: ID	NA			Depth to	o Water (w/ T	ubing in W	ell) <u>7. / 0</u>						
						F	PURGING							
			I	T										
		l				Specific		Cumulative						
	Discharge	Dissahad				Conduct.		Volume of Water	PID/OVA	Reading				
	Rate ¹	Dissolved Oxygen		Eh/ORP	Temp.		Turbidity	Removed/Purged			Depth to			
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments		
1010	,4	0.92	6.45	 		 	2.9	. 3			6.91			
1013	.4	0.47	644		24.30		2.7	.6			6.93			
	.4		6.45		24.29		24	1.0			6.94			
1016	. 4	0.37	6.45		24.22		2.6	1.2			6.98			
1019		0.31				43204		1.5			6.97			
1022	.4	0.30	6.45				2.4	1.8			7.00			
1025	.4	0.30	6.45	149	24.28	43166	1.7	7.0						
		ļ					 							
ļ			 		 		<u> </u>		 					
			<u> </u>	<u> </u>	<u> </u>		 		<u> </u>		-			
		<u> </u>	↓			ļ	<u> </u>		ļ	-				
			<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>	<u> </u>				
Notes:	te = 0.2 - 0.5 L/m	ninute												
-	vn shall be <0.33													
CAMDI F	PARAMET	FRS												
	SVOCs		LIG	1		T T								
SAMPLE		117015.	110	<u> </u>		<u> </u>								
	4	1 4		1		Τ								
Notes:	7	17				<u> </u>								
1. Sample	rate for VOCs an	nalysis = 0.1 - 0.	2 L/minu	ite										
2. Sample	rate for non-VOC	S analysis ≖ pu	rge rate	= 0.2 - 0.5 L	minute									
	n of Well:(
Remarks	s: Disol	<u>rasu</u>	7 <u>6</u> 6	LCURY	<u>র ।১</u>	FIELD	1111	ERED						
FIELDF	QUIPMENT										2			
pH Mete	- 11	OROLA	B		Serial	Number 4	1045		Number o	f Bottles _	ے۔			
	ature Meter_			۲	Serial	Number4	1045	- ·						
	Meter LA				Serial	Number 0	203	2			<u> </u>			
	lec. Cond. Me			713	Serial	Number 4	1045		Field Note	book <u>P</u>	<u> 3. 18</u>			
	eter HYLF						1045			<u>1</u>				
	ter HyD				Serial	Number 4	104	5	Sample M	lethod	<u>-ow Fi</u>	-ow)		
	e Probe So				Serial	Number 2	5.58							
	AMINI				Serial	Number	032	0						
Pump		-Pump	>		Şerial	Number	PIDE	2443				Ø 1 □		
	maratus G			TICRO	`	<u>—</u> —			Discharge	e Water Co	ontainerized	Yes N		



Page / of /

								^					
	e_ <i>WI-</i>				Screen I	nterval	14-19				[7v 171 v-	
Project	CTO 8	26			Station E	Elevation	GND_	TOC	Immiscible Phases Present Yes No				
Project No	o. 1990	.086E	<u> </u>		Static W	ater Level (fr	om TOC)/	Time <u>07/3 - 5.3</u>	0_ 07	7/4-5.	32 071	5-5.33	
Well Loca	tion <u>MoF</u>	FETT-	Sir	<u>E</u>]	Average	Water Level	(from TOC) 5.32					
Sample D	Date 7-7	7-04			Referen	ce Point	10C				ound)		
Sampling	Personnel	13.09	le		Referen	ce Elevation _					O -PPN		
		M.R.		<u>. </u>	Static El	levation							
					Well De	pth MEAS <u>2</u>	<u>1.29 </u>	RPTD	Feet of Wat	er			
Sample I	D 86 - C	S/ -O a	20		Depth of	f Bottom of T	ubing	RPTD					
Duplicate		NA			Depth to	Water (w/ T	ubing in W	ell) <u>5.3/</u>			·		
						F	PURGING						
1						Specific		Cumulative					
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		EWORP	Temp.	(µmhos/cm	•	Removed/Purged			Depth to	Commonto	
Time	(L/min)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
0715	.4	1.67	6.41	146	1636		4.1	, 2_			5.32		
0718	4	.90	6.41	78	16.52	46109	3.9	.5			5.32		
0721	.4	,50	6.35	58	16.69	45344	3.3	. 7			5.30		
0724	.4	.4/	6.34	-68	16.82	45007	3.2-	1.0			5.32		
0727	.4	,53	6.33	-72	16.95	44029	2.4	1.2-			5.30		
0730	,4	.36	6.33	-71	16.99	43522	2.7	1.5			5.32		
0733	.4	140		-75		43419	2.5	1.8		<u> </u>	5131		
0736	.4	139				43401	2.4	2.1			5.31		
0,00	• 1				1,7,								
-		 	 		1								
			1							<u> </u>	<u> </u>		
Notes:	<u> </u>	<u> </u>			<u></u>	<u> </u>							
	te = 0.2 - 0.5 L/m												
	vn shall be <0.33												
	E PARAMET			,		T"		T	T		T	T	
2x	SVOCS	11x Dil	ta_			<u></u>			<u> </u>		<u> </u>		
SAMPLI	E RATE		<u> </u>	.				1	T		T	·T	
	.4	14		<u></u>		<u> </u>		<u> </u>	<u> </u>				
Notes:	rate for VOCs an	alvsis = 0.1 - 0.1	2 L/minu	te									
2. Sample	rate for non-VOC	s analysis = pu	rge rate :	= 0.2 - 0.5 L/	minute								
Conditio	n of Well:	Good	1						-,11	C			
Remarks	,	lvot	M .	reur	4 S	ample	was	Tield F	iltere	α			
				<u></u>)	1					_		
	QUIPMENT	1.1			Carial	Number 4	1045		Number o	f Bottles	3		
	er Hyd		1				1045						
	ature Meter _						2032						
	y Meter <u>La</u>					Number <u>4</u>	1045		Field Note	book D	0 22		
•	lec. Cond. Me	2 3 11	rola	1)		Number 4	1045			10			
ORP M		1 0				Number	1045		Sample M	lethod	Low F	Tow	
		relab dinst				Number		25582					
							0032						
PID/OV		- react					WE Z						
			5	Mics					Discharge	e Water Co	ontainerized	Yes No	
Fifter Ap	pparatus <u> </u>	1001.7	<u> </u>	100									



Page_	/	_ of _	1_	_
Date	フー	6-0	14	

Well Nam	re W1-6	22			Screen Interval								
	200 86				Station I	Elevation	GND _	TOC	Immiscible I	Phases Pr	esent [JYes [☑No	
Project No	o. <u>1990</u> .	086E			Static V	ater Level (fr	om TOC)/	Time <u>/3 48 - 3</u>	1.62 _/3	149-3	.62 1350	3.61	
	ition MOF		SIT	<u>- \</u>	Average	Water Level	(from TOC	3.62					
	Date 7 -				Referen	ce Point	TO	2	PID Readin	gs (backgi	round) <u>~</u>	ppm	
	Personnel_				Referen	ce Elevation			PID Readin	g (TOC) _	-O-pp	m	
	_	M. Ra	mos		Static E	levation			Notes				
					Well De	pth MEAS 6	.66_F	RPTD	Feet of Water				
Sample I	D <u>86-</u> 8	1-025			Depth o	f Bottom of T	ubing						
Duplicate	e ID	A			Depth to	Water (w/ T	ubing in W	ell) <u>3,62</u>					
							PURGING						
		I	1	Ι	<u> </u>		OKONG						
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading	Double to		
	Rate ¹	Oxygen		EWORP		(µmhos/cm		Removed/Purged	1	Malua	Depth to Water ² (ft)	Comments	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	3.62	Comments	
1352	. 4	150	6.57			14530	5.1	3			3.62		
1355	.4	.40	6.59		28.91	25807	3.7	15					
1358	. 4	129	6.60			25700	3.6	.8	ļ		3.62		
1401	.4	.24	6.61			25792	3.6	(.)			3.61		
1404	.4	.22	6.61			25346		1.4		 	3.62		
1407	. 4	:21				22221	3.5	1.7			3.61		
1410	.4	1.20	6.61	-140	28.22	25474	3.5	2.0			3.62		
							<u> </u>						
			<u> </u>	<u> </u>					<u> </u>	 			
			<u> </u>	<u> </u>						ļ			
	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	l		<u> </u>	<u> </u>	<u> </u>	l	
2. Drawdov	te = 0.2 - 0.5 L/m vn shall be <0.33	foot											
	SVOCs	IX D. H	10	T		1		I					
SAMPLI		114 011	7	<u> </u>	-	<u></u>							
	4	,4	~ _								<u> </u>		
Notes: 1, Sample 2. Sample Conditio	rate for VOCs an rate for non-VOC	alysis = 0.1 - 0.1 s analysis = pu	rge rate :	= 0.2 - 0.5 L/ 	minute	e was	Fiel-	Filtered	,				
		or Me	(00)	7 3/1	WERE								
	er 17 yay	olab			Serial	Number <u>4</u>	1045	•	Number of	f Bottles _	3_		
	ature Meter E		.d			Number <u> </u>	1045						
Turbidih	Meter LF	MOTT	_ج		Serial	Number	203				~ ~~		
	lec. Cond. Me		plak		Serial	Number <u>4</u>	1045	<u>-</u>	Field Note	book	0q.20		
	eter Hyd				Serial	Number	1045	-		1	2		
D.O. Me	- 1 P 1 V	rdab			Serial	Number	1045		Sample M	lethod <u>Lo</u>	ow tle	<u> </u>	
Interface		polinst	-		Serial	Number	5228	2					
PID/OV	4	M-Ra	e_		Serial	Number	<u>XO32(</u>	2000					
	_ ` ^	g mu				Number	JINE	2443	Disabarra Water Containerized Yes No				
	poaratus	Gent-	٠٠, ١	45 m	Cray	15			Discharge Water Containerized Yes No				



M-U Marr	e W/-	72			Seroon	Interval	NIL	1				
Well Nam	CTO 8				Station I	Floration	GND	TOC Time <u>/5/8~5</u>)5.46	Immiscible	Phases Pr	esent	Yes No
Project	1990	086E			Static M	Jator Lovel (fr	OND _ om TOC) /	Time /5/8-5	46 15	19-5.	46 15	20-5.46
Project No	tion <u>Mof</u>	Y-#- C	1	T	Augman	Mater Level (III	(from TOC)	5.46			<u> </u>	
			110	-	Average	e Point	TOP		PID Readin	as (backa	round) 😝 🛭	PPM
	ate <u>7-6</u>		6		Release	CE FORT	100					
Sampling	Personnel	15.09							Notes	9(100)_		<u> </u>
		M. Ko	MO	2		levation		RPTD	Feet of Wal	er		
	- 07	C1 2	321			f Bottom of T			, 000 01 114			
	D_86 -		Ja I		Depth o	BOROTTOL T	ubling in \A/	ell) <u>5.</u> 46				
Duplicate	ID N	///			рерит и	o vvaler (wr i	ubing in vv	City				
			,			F	PURGING		T		<u> </u>	
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
Time	Rate ¹ (L/min)	Oxygen (mg/L)	pН	Eh/ORP (mV)	Temp. (°C)	(µmhos/cm at °C)	(NTU)	Removed/Purged (Gallons)	Location		Depth to Water ² (ft)	Comments
1520	We	7	Da	מנות מ	nin	a dru	imy	repratel	at	ter_	Start	
1020	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		7	1		7			1			
								(·			
											ļ	
											<u> </u>	
									<u> </u>		<u> </u>	
									<u> </u>	L		
	te = 0.2 - 0.5 L/m vn shall be <0.33											
SAMPLI	PARAMET	ERS							Т		Т	
		<u></u>		<u> </u>				<u> </u>	<u>L.,</u>			
SAMPLI	RATE								-T		T	
		<u> </u>							.i		<u> </u>	
2. Sample Conditio	rate for VOCs and rate for non-VOC	analysis = pu	rge rate	= 0.2 - 0.5 L/	minute							
Remark	s:_ <u>See_</u>	NOIS (abo	ドン								
FIELD E	er Hudr	olab	.1 -				104	<u> </u>	Number o	f Bottles _	0_	
	ature Meter_	Hydrola	<u>,b</u>			Number _ 4						
Turbidity	Meter	a Motte				- I	203	<u></u>	F:-1 > \$1.4.	haak C	a 20	
Spec. E	lec. Cond. Me	eter Hydl	plat	<u> </u>		Number 4	1045		Field Note	:DOOK —	7 20	
ORP M	1 1 1	malab				Number 4	1045		0 1- 1-	· ا برموسه	U Fla	ω
D.O. Me	ter Hudy	plab				Number <u>4</u>	1043	<u> </u>	Sample M	etnoti <u>L</u>	OC 1 10	<u></u>
Interfac	e Probe 📗 🗟	tenilo					-22.8.	<u></u>				
PID/OV		-Rae					2032C	443				
Pump_	Seo-(DUMP	· ·				NE Z	-170	Discharge	Water Co	ontainerized	Yes No
Filter Ar	naratiis (-	ren'	4	5 mi	CIOV	7			Discharge	A A GIGI CI	OF FURITION RECORD	لــا ك



Well Nam	ne W1 - 3	24			Screen	Interval	6-1	6				¬ 157
	CTO 8				Station I	Elevation	GND_	TOC	Immiscible	Phases Pr	resent	Yes 🔀 No
	o. <u>1990</u> .				Static V	/ater Level (fr	om TOC) /	Time 1041 7	7.35 10	042 7:	36 104	13 7.40
Well Loca	ation MoFF	ETT- SI	TE		Average	Water Level	(from TOC	7.37				
	Date								PID Readin	gs (backg	round)	z ppm
	Personnel _		le l						PID Readin	g (TOC) _		-ppm
			mos		Static E	levation			Notes			11
					Well De	pth MEAS	0.25 F	RPTD	Feet of Wat	ter	·	
Sample I	D_86-5	31-02	8		Depth o	f Bottom of T	ubing/	' <u>'</u>		···		
	e ID				Depth to	o Water (w/ T	ubing in W	(ell) 7.40				
							PURGING					
-		1			Ι							
						Specific		Cumulative	1			
	Discharge	Dissolved	i			Conduct.		Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	рН	1	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1040	.4		6.55	-170	28.19	24407	3.6	,3	<u></u>		7.37	
1043	.4	,37	6.53			27400	3.6	.6			7.38	
1046	.4	.29		-175			3.7	1.0			7.39	
1049	•4	.24		-172			3.4	1.2			7.39	
1052	1	.23				30080	3.3	6.5			7.39	
1055	.4	23		,		30074	3.4	1.8			7.40	
1033	17		15	-161	1	700,1						
		- i	1	1								
			 									
				<u> </u>	1							
	 									<u> </u>	<u> </u>	.,,
Notes:	<u></u>		-									
-	nte = 0.2 - 0.5 L/m wn shall be <0.33											
	E PARAMET		и.	1		1			1			
SAMPLI	SYOCS	/x.A.	<u> 19</u>	1		<u> </u>		<u> </u>	<u> </u>			
SAMPLI		1.4		T				T				
Notes:	<i>T</i>			<u></u>		<u> </u>		<u> </u>				
1. Sample	rate for VOCs an	alysis = 0.1 - 0.	2 L/minu	te - n 2 n 5 l /	minute							
	rate for non-VOC	_	ige rate	- 0.2 - 0.3 L	mac							
		GOOD						eld filter	<u>~</u>	·×		
Remark	s: <u> </u>	ived /	1e 10	ury	Sam	pre we	25 17	au Tillei	<u> </u>			
FIELD E	EQUIPMENT					/1	10115			(D - 41 · -	3	
pH Mete	er <u>Hyd</u>	rolab,	τ			7.1	1045		Number o	ı Roαles ¯		
Temper	ature Meter _	Haquola	<u>_L</u>			Number _ 4	1043	<u> </u>			<u></u>	
	y Meter <u> </u>						203	<u>-</u>	Finish	hanle A	a. 18	
	lec. Cond. Me		rola	<u>.b_</u>		Number	1045		Field Note	DOOK{	3. "	
ORP M	eter <u>Hyd</u>	rolab'	·			Number	104	7	0 1 11	 أ المصطلحا	ow Flo	377
D.O. Me	eter <u>Hud</u>	mlab				Number	+10+	7	Sample M	etnod	0W 1 11	٠,٠٠
Interfac		Solinsi				Number2	<u>~ (</u>	8 4				
PID/OV	MIN MIN	:-PAE					032	21112		<u></u>		
Pump_	<u>Geo-P</u>				Serial Number PINE 2443				Discharge Water Containerized X Yes No			
Ciltor A	nnaratus (Sec	40	MUCY	$\sim \sigma$				Discharge	e water Co	Unidilienzeu	M .∞ Π





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Well Nam					Screen I	nterval	14.3-2	4.3			-	-, 'k/
	CTO 86-Site				Station E	Elevation	GND _	TOCTOCToc	Immiscible I	Phases Pr	esent	JYes XNo
Project No	o. <u>1990.08</u>	36E			Static W	ater Level (fr	om TOC) /	Time <u>S. 41/08.</u>	<u> 38 8, 9</u>	41/083	9 8,4	1/0840
	tion <u>Moffett</u>				Average	Water Level	(from TOC	\				
	Date <u>8//9</u>				Referen	ce Point <u>T</u>	<u> </u>		PID Readin	gs (backg	round) _ <i>E) 4</i>	14
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation _			PID Readin	g (TOC) _	Oppull	
		M.RAMOS			Static E	levation			Motes			
						•			Feet of Wat	ter		
Sample I	D <u>86-S1-030</u>)				f Bottom of T						
Duplicate	ID <u>N/A</u>				Depth to	Water (w/ T	ubing in W	ell) <u>8,43</u>				
		· · · · · · · · · · · · · · · · · · ·				F	URGING					
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen	1	Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	рН	(mV)_	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1345	14	0.57	10.4	-93	28.9	63411	5.8	, 2			8,45	
1348	,4	0.31	6.4	-9.5	28,6	6/653	4.8	.4			8.47	
1351	.4	A,ZZ	6.4	-95	28.2	61340	4.7	.6			8,48	
1354	.4	0.20	6.4	-95	28,0	1.1701	5.0	.8			8,51	
1357	.4	0.16	6.4	-96	27.8	58562	5,2	1.0			8,51	
1400	,4	0.14	6.4	-97	27.9	60215		1.2		ļ	8,52	
1403	.7	0.13	6.4	- 78	27.9	60752	3.9	1,4		ļ	8,52	
1405	Collect	Samp	le_		<u> </u>				 	 		
		<u> </u>		ļ			ļ	<u> </u>	 	 	-	
<u> </u>				<u> </u>		ļ <u>.</u>	ļ		<u> </u>			
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	l	1	<u> </u>	1	L
_	ite = 0.2 - 0.5 L/m vn shall be <0.33											
SAMPI	E PARAMET	FRS										
	(SVOCs	1XD.M	FRC	1		1					T	
·	E RATE	17,0.00		<u> </u>	-			<u>.L.,</u>				
	4 yar	140	1141	Ţ					T			
Notes:			,			. <u></u>						
	rate for VOCs an				/minute							
		- . 1										
Conditio	on of Well:	1 1 1				Mer	Town Also	s were fi	-112	Horal	•	<u> </u>
Remark	s: Clear	10000 le	25.5	WATE		1110161	sumpie	s were fi	MEY!!	/ LF CLI		
FIELD I	EQUIPMENT											
pH Met	er	HYDROLA	NB		Serial		#03682		Number o	of Bottles _	2X1LA	
Temper	ature Meter _	HYDROL	AB		Serial		#03682				1X250mLP	
	y Meter	HYDR					#03682		PP1 . 1 * 5 * *	. h . a / . K	٤, 32	
-	lec. Cond. M		ROLAE	3			#03682		Field Note	BDOOK	y, 3 4	
ORP M		IYDROLAB					#03682		0	dette e d		
		YDROLAB				—	#03682		Sample N	/lethod <u>Lo</u>	OW FIOW	
	e Probe <u>SC</u>						#25582					
		INI-RAE				-	#00320					
Pump_		EO-PUMP			Serial	Number	#03001		Disabasa	a Mater C	ontainerized	X Yes 1
Eiltor A	nnaratus i	GEO. 45 M		1					DISCRAFO	e vvater L	villaii iefized	_ ∧ [€5 [] !



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Well Nam	e W1-5				Screen	Interval	14.5-1	9.5				
Project_	CTO 86-Site	1. R3/04			Station i	Elevation	GND	TOC	Immiscible I	Phases Pr	esent	Yes X No
Project No	o. <u>1990.08</u>	36E			Static V	/ater Level (fr	om TOC) /	TOC Time <u>5.83/09</u>	29 5	83/09:	30 5, b	83/0931
Well Loca	tion <u>Moffett</u>	Site 1			Average	Water Level	(from TOC	5,83		/		
Sample D	Date S	19/04			_		•		PID Readin	gs (backgi	round) De)m
Sampling	Personnel	D. HARRIS	ON						PID Readin	g (TOC)	Oscia //	
		M.RAMOS_				levation			Notes		77	
					Well De	pth MEAS 2	<i>1.33</i> F	RPTD	Feet of Wat	er		
Sample I	D 86-S1-038	3			Depth o	f Bottom of T	ubing1	7				
Duplicate	ID <u>86-S1-</u>	-039			Depth to	Water (w/ T	ubing in W	ell) <u>5.80</u>				
<u> </u>							PURGING					
<u> </u>			ı ——		<u> </u>		UKGING					
	Discharge Rate ¹	Dissolved		EL/ODD	Temp.	Specific Conduct. (umhos/cm	Turbidity	Cumulative Volume of Water	PID/OVA	Reading	Depth to	
Time	(L/min)	Oxygen (mg/L)	pН	Eh/ORP (mV)	(°C)	at °C)	(NTU)	Removed/Purged (Gallons)	Location	Value	Water ² (ft)	Comments
0418	o-4	1:04	7,2		22.4	14131	3.0	, Z	Location	Value	5.83	Comments
0921	07	0.62	7.2	-72	22.3	18791	2.9	:4			5.90	
0924	.4	0.40	7.3		22,5		2.0	, (4)			5.92	
0927	4	0.31	7.3	-83	22,5		3.0	. 8			5.91	
0930	<u>.4</u>	BIZE	13	-99	22.4		1:7	1.0			5.92	
0933	v4	0.23	7.3	-97	224	2885%	1,7	1.2-			5.42	
0935	Collect	Sauple	1		1	0.5000	1					
0445	Collect	Field	Du	licolo		-						
1	311	1	1	<i>*************************************</i>	1							
					1							
					1							
-	te = 0.2 - 0.5 L/m n shall be <0.33											
SAMPLE	E PARAMETI	ERS										
4X	SVOCs	2XD.ME	ERC	1				· · · · · · · · · · · · · · · · · · ·				
SAMPLE				 		I		<u> </u>	1			
	9 Uns	440	Tu.	1				1				
Notes: 1. Sample : 2. Sample :	rate for VOCs and rate for non-VOC	alysis = 0.1 - 0.1 s analysis = pui	2 L/minu rge rate :			C. Wes	Field	Filtered				
FIELD E	QUIPMENT	•.							•			
pH Mete		HYDROLA	В		Serial i	Number#	03682		Number of	Bottles_	4X1LA	
Tempera	ature Meter_				Serial	Number #	03682				2X250mLP	
•	Meter						03682					
•	ec. Cond. Me						03682		Field Note	book Po	. 29+3	ට
ORP Me		YDROLAB			Serial	Number#	103682					
D.O. Meter HYDROLAB						Serial Number #03682			Sample M	ethod <u>Lo</u>	w Flow	
	Probe SC				Serial Number #25582							
PID/OV	A <u>M</u>	NI-RAE			Serial Number #00320							
Pump _	G	EO-PUMP			Serial	Number	# 03001				·····	
Filter Ap	paratus	3EO45 MIC	CRON						Discharge	Water Co	ontainerized	X Yes No



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Well Nam	ne W1-8				Screen I	nterval	13,18					
	CTO 86-Site	1 P3/D4				Elevation		TOC	Immiscible I	Phaese Pr	esent [Yes No
	o. <u>1990.08</u>				Statio M	later Level (fr		Time 5, 99/09.	33 A	SA / 4	ed <.c	1/0935
-	tion <u>Moffett</u>				Average	Mater Level (11	(from TOC)	5.89	<u></u>	31 4. /~	<u> </u>	1/5/
	Date 8/19								DID Boadin	ae (backa	cound) O A	A:.
			ON						PID Readin	gs (backy) a (TOC)	Outld)	<u> </u>
Sampling	Personnel		<u>UN</u>			_			Notes	g (100)_	appu	
		M.RAMOS						RPTD	Notes	or		
Cample I	D 86-S1-040	·							reet Ut VVai	.e		
	e ID <u>N/A</u>	·		-	Depth to	Mater had T	ubing in M	o.5 (ell) <u>5.89</u>			····	
Duplicati	TID NIA				Deptilit	o vvaler (wr i	aping in w	en/ <u> </u>				
				T	· · · · ·	F	URGING					
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
Time	Rate ¹ (L/min)	Oxygen (mg/L)	pН	Eh/ORP (mV)	Temp.	(μmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Depth to Water ² (ft)	Comments
1003	. 1	0.73	7.0	-28	26.9	57180	4,3	6/	<u> </u>		5,92	
10076	.4	0.38	7.2	-32	26.0	59456	3.1	,3			5,43	
1009	.4	0.23	7.2	-42	25.3	61345	3.3	,5			5,95	
10/2	,4	0.19	7.3	-55	25,0	62247	2.9	<i>-7</i>			5,95	
1015	.7	0.17	7.2	-60	14.8	61872	2.2	,9			5,95	
1018	.4	0.16	22	-58	248	61763	2.9	1-1			5.94	
1020	Collect	Sample			<u> </u>							
									<u> </u>			
								<u> </u>		<u> </u>		
				<u> </u>	<u> </u>		<u> </u>		<u> </u>		<u> </u>	
•	ite = 0.2 - 0.5 L/m wn shall be <0.33											
SAMPL	E PARAMET	FRS					•					
	(SVOCs	1XD.M	ERC	1		T			T		1	
	E RATE	I IAD.IV	LINO			<u> </u>		4				
		,44	144	1		1		T	1		T	T
Notes:	ym	1,72	7~1		,	<u> </u>		<u></u>	<u> </u>	····		
	rate for VOCs an rate for non-VOC				/minute	·						•
Conditio		Good										
Remark	s: <u>Clear</u>	lodoute	55 U	vater.	- Me	200- W.C	5 4 el	d filtered				/
FIELD I	EQUIPMENT		•						B 1	€ D -#1	0741.4	
pH Met	****	HYDROLA					#03682		Number o	I ROLLIES _	2X1LA	
•	ature Meter _						#03682 ************************************				1X250mLP	
	y Meter	HYDRO					#03682		Pi-11A	hards D	20	
	lec. Cond. M			3			#03682		Field Note	3DOOK _ 172	1:30	
ORP M	eterH	IYDROLAB					#03682		0	4 - Ll	Flau	
D.O. M		YDROLAB					#03682		Sample M	fethod <u>Lo</u>	W FIOW	
	e Probe <u>S</u>						#25582	· · · · · · · · · · · · · · · · · · ·				
PID/O\		INI-RAE					#00320					
Pump_		EO-PUMP			Serial	Number	#03001		Diache	- Motor 0	ontainosizad	X Yes N
Filter A	pparatus	GEO45 MI	CRON						⊔ischarg	e vvater C	ontainerized	X Yes L N



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Well Nam	ne <u>W1-14</u>				Screen	Interval	4.1-14	.1			 	
	CTO 86-Site	1. R3/04		········	Station I	Elevation	GND_	TOC Time_5:95/0	Immiscible I	Phases Pr	esent [Yes No
Project No	o. <u>1990.08</u>	36E			Static W	/ater Level (fr	om TOC) /	Time 5:95/0	910 5	.95/0	911 5.9	15/09/2
Well Loca	tion <u>Moffett</u>	Site 1			Average	Water Level	(from TOC	1 7/95				-
	Date 8				-	ce Point	•		PID Readin	gs (backgi	round) Op	06.
Sampling	Personnel	D. HARRIS	ON						PID Readin	g (TOC)	Oppin	
	-	M.RAMOS			Static Elevation					J (· · - / _		
								RPTD	Notes	ter		
Sample I	D 86-S1-034	4				f Bottom of T						
1 '	e ID N/A				Depth to	Water (w/ T	ubing in W	ell) <u>5,95</u>				
<u> </u>							PURGING	,				
						<u> </u>	PORGING		<u> </u>		[]	
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen	٠	Eh/ORP		(µmhos/cm	, ,	Removed/Purged			Depth to	_
Time	(L/min)	(mg/L)	pH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1/27	:-9	0.45	7.1	-88	33.8		6,0	, 2			5,95	
1130	17	0.29	7./	-9i	7	7345/	3.6	<i>cj</i>			5.98	
1133	6.7	0,20	7.2	-91	23.1	73800	3.4	.6			6.01	
1134	:7	0.18	7.2		24,0	73357	3.4	\$	 	<u> </u>	6,03	
1/39	4	0.18	7.4	-103	23,3	72699	3.2	7.0		ļ	6,04	
1145	Collect	Samo	ب	<u> </u>	ļ	ļ	 		 	ļ		
			 	ļ	<u> </u>				<u> </u>			
					ļ		<u> </u>		ļ			
			<u> </u>	ļ	<u> </u>				ļ	ļ		
			ļ	 		ļ	 		ļ			
Notes		L	1	<u> </u>	<u> </u>	<u> </u>	L	L	<u> </u>	<u> </u>	<u> </u>	
_	te = 0.2 - 0.5 L/m vn shall be <0.33											
SAMPLE	E PARAMET	ERS		•								
2X	SVOCs	1XD.M	ERC			l		1				
SAMPLE					· · · · · · · · · · · · · · · · · · ·	<u> </u>			<u> </u>		<u></u>	
	4 4/4	.1	Ja	1				Ţ			,	
Notes: 1. Sample	rate for VOCs an	alysis = 0.1 - 0.	2 L/minu		minute	. 						
Condition	n of Well:	Good				€,						
	odorte		Nerc	. Wa	5 Fi	eld Fil	teved		······			
FIELD E	QUIPMENT											
pH Mete		HYDROLA	В		Serial	Number #	£03682		Number o	f Bottles	2X1LA	
•	ature Meter _	HYDROL					03682				1X250mLP	
•	/ Meter	HYDRO					#03682	·····		***************************************		
•	lec. Cond. Me			}			±03682		Field Note	book P	4,27	
ORP Me		YDROLAB		-			¥03682					
		YDROLAB					#03682		Sample M	lethod Lo	w Flow	
	D.O. Meter <u>HYDROLAB</u> Interface Probe <u>SOLINST</u>						#25582		Sample Method <u>Low Flow</u>			
PID/OV		NI-RAE					#00320					
Pump_		EO-PUMP					#03001					
		3EO45 MI	CRON			***************************************			Discharge	e Water Co	ontainerized	X Yes No



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Well Nam	e <u>W1-15</u>				Screen	Interval	4.4-14	.4				
Project	CTO 86-Site	1, R3/04			Station I	Elevation	GND _	TOC	Immiscible I	Phaseş Pr	esent [Yes No
Project No	o. <u>1990.08</u>	36E		-	Static W	/ater Level (fr	om TOC) /	TOC Time <u>6 .09/08</u>	43 6,	09/08	44 6,0	9/0845
	tion Moffett-				Average	Water Level	(from TOC	6.09				
Sample D	Date <u>8/18</u>	104			Referen	ce PointT	oc		PID Reading	gs (backg	round) <i>DA</i>	Die
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC)	DASW	
		M.RAMOS			Static E	levation			Notes		. 71	
					Well De	pth MEAS /	7.45 F	RPTD				
Sample I	D 86-S1-031					f Bottom of T						
Duplicate	ID N/A				•			ell) <u>6,09</u>				
					•		PURGING					
							OKOO				I	*
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen		Eh/ORP	4		•	Removed/Purged			Depth to	1
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1000	.1	0.77	6.9	-209		26205	3.2	. /			6.11	
1003	.4	0.20	7,2	-147	26.7	28762	2.7	. 3			6.14	
1006	61	0:15	7.2	-245	26.5	3383/	1:7	.5			6.15	
1009	14	0.11	7.3	-248	26.7	57655	1:2	.7			6.18	
1012	:4	0.09	7,3	-257	27.0	53587	102	. 9			6.18	
1015	.4	0.08	7.4	262	27.2	60314	3.1	101			6.19	
1018	Collect	Sour	√ €		<u> </u>				<u> </u>			
			ļ		<u> </u>							
<u> </u>			ļ		<u> </u>			<u></u>				
<u></u>			<u> </u>									
	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>	<u> </u>		
-	te = 0.2 - 0.5 L/mi /n shall be <0.33											
SAMPLE	PARAMETI	ERS										
	SVOCs	1XD.ME	-RC	1					T		1	
SAMPLE		1 171211111		.		<u> </u>		<u></u>		******	<u> </u>	
	9 4M	:44	les	ſ		T			T		1	
Notes: 1. Sample 2. Sample Condition	rate for VOCs and rate for non-VOC on of Well:	alysis = 0.1 · 0.3 s analysis = pu	2 L/minu rge rate :	= 0.2 - 0.5 L/I		rcles)	Sulphe	- odor - N	ierc. w	us Fi	eld Filte	orer.
FIELD E	QUIPMENT			Ü			,					
pH Mete		HYDROLA	В		Serial	Number#	03682	·	Number of	Bottles _	2X1LA	
Tempera	ture Meter _	HYDROL	AΒ		Serial	Number #	03682				1X250mLP	
Turbidity		HYDRO				·	03682					
=	ec. Cond. Me						03682		Field Note	book Pa	,26	
ORP Me		YDROLAB			Serial	Number #	03682				,	
D.O. Meter HYDROLAB							03682		Sample M	ethod Lo	w Flow	-
	Interface Probe SOLINST						25582					
PID/OV		NI-RAE		s			100320					
Pump_		EO-PUMP					¢03001					
Filter Ap		SEO45 MIC	CRON						Discharge	Water Co	ontainerized	X Yes No



Page_	_1_	_ of _	_1_	
Date_	8/18	/04		

								//				
Well Nam	e W1-16				Screen	Interval	5.4-15	.4				
Project	CTO 86-Site	1. R3/04							Immiscible I	Phases Pr	esent	Yes No
Project No	o. <u>1990.0</u> 8	36E			Static V	/ater Level (fr	om TOC) /	TOC Time <u>7.75/0</u> 0	141 7	15/094	12 7.7	5/0943
Well Loca	tion <u>Moffett</u>	Site 1			Average	Water Level	(from TOC	7.75				
Sample D	Date <u>S//</u> 4	104				ce PointT			PID Readin	gs (backgi	round) DA	Jan
Sampling	Personnel	D. HARRIS	ON						PID Readin	g (TOC)	Oppmil	
		M.RAMOS				levation			Notes	-	η	
								RPTD				
Sample I	D 86-S1-042	2				f Bottom of T						
Duplicate	ID N/A							ell) <u>7.50</u>				
	-						PURGING					
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Galions)	Location	Value	Water ² (ft)	Comments
1345	.4	1.03	7:1	-53	28,9	71084	10.8	e /			7,55	·
1248	.4	0,80	7,0	-47	29.0	55367	6.8	، ع			7.5%	
1251	:4	0.43	6.9	-47	29.1	39721	7,2	, ১			7:57	
1354	e4	0,35	6.8	-51	29.0	31164	7:7	.7			7.59	
1257	.4	0.23	6.9	-58	28,3	32604	8,3	1.0			7,59	
1300	.4	0,20	6.9	62	28.6	345e2	7.4	1.2		<u> </u>	7.60	
1303	.9	0.19	6.9	-64	28.6	34505	7.2	1.4	<u> </u>		7.60	
1305	Collect	Samo	<u> </u>						<u> </u>			
			<u> </u>				<u> </u>					
				<u> </u>					<u> </u>	<u> </u>		
	<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>			<u> </u>	<u> </u>		
-	te = 0.2 - 0.5 L/m vn shall be <0.33											
SAMPLE	E PARAMET	ERS										
	SVOCs	1XD.M	-RC	T		Ţ <u></u>			T	·····		
SAMPLE		17,0,111	-110	<u> </u>		<u> </u>			<u></u>		<u> </u>	
	9 Wu1	.4	lus	T		T		T	T	***************************************	T	
Notes:	-1 -/4	1 77	-/u1	<u>.L</u>		<u> </u>				······	<u> </u>	
•	rate for VOCs and rate for non-VOC	•			eninuta							
		. 7	ige late .	- 0.2 - 0.5 🖸	minue							
	n of Well:					71 -1	, ,				, — <u>, — , — — — — — — — — — — — — — — —</u>	
Remarks	s: <u>H2S c</u>	sclor -	Med	C. 1010	15 +1	eld Fili	eved					
FIELD E	QUIPMENT											
pH Mete	r	HYDROLA	В	· · ·	Serial	Number#	03682	· · · · · · · · · · · · · · · · · · ·	Number of	f Bottles _	2X1LA	
Tempera	ature Meter _	HYDROL	AB		Serial	Number <u>#</u>	103682	·			1X250mLP	
Turbidity	Meter	HYDRO	LAB	·····	Serial		£03682					
Spec. El	lec. Cond. Me	eter <u>HYDF</u>	ROLAB		Serial	Number	1 03682		Field Note	pook	gs 31+	37
ORP Me	eter <u>H</u>	YDROLAB			Serial	Number	¥03682				-	····································
D.O. Me	D.O. Meter <u>HYDROLAB</u>					Number	#03682	·····	Sample M	ethod <u>Lo</u>	w Flow	
Interface	Interface Probe SOLINST					Number	* 25582					
PID/OVA MINI-RAE					Serial	Number	¥00320	<u></u>				
Pump _	G	EO-PUMP			Serial	Number	#03001					
Filter An	paratus (3EO45 MI	CRON						Discharge	Water Co	ontainerized	X Yes No



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Well Nam	e <u>W1-19</u>				Screen	Interval	14-19						
Project	CTO 86-Site	1, R3/04			Station Elevation GND TOC Immiscible Phases Present								
Project No	o. <u>1990.08</u>	36E			Static Water Level (from TOC) / Time 4.55/0906 4.55/0907 4.55/0908								
Well Loca	tion <u>Moffett</u>	Site 1			Average	Water Level	(from TOC	4.55					
Sample D)ate <u> </u>	3/04			Referen	ce Point	oc		PID Reading	gs (backgr	ound) Opp	کانب	
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Reading	g (TOC)	Oppin		
		M.RAMOS_			Static E	levation			Notes		7.7		
					Well De	pth MEAS 🚅	1/.34 F	RPTD	Feet of Wat	er			
Sample I	D <u>86-S1-03</u> 2	2				f Bottom of T		.5					
Duplicate	ID <u>N/A</u>				Depth to	Water (w/ T	ubing in W	ell) <u>4,55</u>					
				·········			PURGING					*	
]									
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		EWORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(Ľ/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1050	.4	0.30	7.0	6	27.0	61064	3.9	٠,٦			4,56		
1053	· 4.	0.18	7,0	-21	2.5	60027	3,4	, 4	·		4,58	· · · · · · · · · · · · · · · · · · ·	
1056	.4	0,14	7.0	-20	26.0	65764	2.7	, 6			4,61		
1059	4	0.12	7.0	-20	25.7	62230	1,2	18			4,61		
1102	.4	0.12	6.9	18	25,5	6/992	1.4	110			4.63		
1/05	Collect	Sample			<u> </u>								
			<u> </u>	<u> </u>	<u> </u>					<u> </u>			
			<u> </u>	<u> </u>			<u> </u>						
			<u> </u>	<u> </u>					<u> </u>				
		<u> </u>	<u> </u>	<u> </u>	ļ	ļ	<u> </u>						
N-Ai		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	L	<u> </u>	<u> </u>			
_	te = 0.2 - 0.5 L/m vn shall be <0.33		,										
SAMPLE	E PARAMET	ERS											
	SVOCs	1XD.ME	-RC	T		[T		T		
SAMPLI		17.0.111				<u> </u>					1		
	4 c/m	.40	du.	T		<u> </u>			T				
Notes:	rate for VOCs an			 te		.1			<u> </u>	· ·			
-	rate for non-VOC	-			minute								
Conditio	n of Well:	Good											
	: Odorla		Nerc	· Wa	s fre	Kl Filte	red						
FIELD E	QUIPMENT												
pH Mete	r	HYDROLA	В		Serial	Number#	03682		Number of	f Bottles _	2X1LA		
Tempera	ature Meter _	HYDROL	AB		Serial	Number <u>f</u>	03682				1X250mLP		
Turbidity	Meter	HYDRO	LAB		Serial	Number#	103682				<u> </u>		
Spec. E	lec. Cond. Me	eter <u>HYD</u> F	OLAE		Serial	Number	f03682		Field Note	book <u>f</u>	9,26		
ORP M	eter <u>H</u>	YDROLAB			Serial	Number	#03682			<u> </u>			
D.O. Meter <u>HYDROLAB</u>					Serial	Number	1 03682		Sample M	ethod <u>Lo</u>	w Flow		
Interface	e Probe <u>SC</u>	DLINST			Serial	Number	#25582						
PID/OV	AM	NI-RAE			Serial Number#00320								
Pump_	G	EO-PUMP			Serial	Number	# 03001						
Filter Ar	paratus (3EO45 MI	CRON						Discharge	Water Co	ontainerized	X Yes N	



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Well Nan	ne W1-22				Screen Interval N/A							
Project _	CTO 86-Site	1, R3/04			Station	Elevation	GND	TOC	immiscible !	Phases Pr	esent [Yes X No
Project N	o. <u>1990,0</u> 6	86E			Static V	/ater Level (fr	om TOC) /	Time 3.73/09	724 3	73/09	25 3.7	2/0926
Well Loca	tion Moffett	Site 1			Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 3.73/0924 3.73/0925 3.72/09.2 CAVerage Water Level (from TOC) 3.73							
Sample [Date <u>S</u>	19/04			_				PID Readings (background) Oppus PID Reading (TOC) Oppus			
Sampling	Personnel_	D. HARRIS	ON						PID Readin	a (TOC)	ODDIL	
		M.RAMOS				levation		***************************************	Notes	J (/ _	17	
-							.70 F	RPTD	-			
Sample I	D <u>86-S1-03</u>	7				f Bottom of T				•		
Duplicate	ID MS/M	SD			Depth to	Water (w/ T	ubing in W	ell) <u>3.7/</u>				
									······			
				· ·	-	1	PURGING		·		l I	
												I
ļ '	Discharge	Disastrat	1			Specific Conduct.		Cumulative	PID/OVA	Peading		1
	Rate ¹	Dissolved Oxygen		Eh/ORP	Temp	(μmhos/cm	Turbidity	Volume of Water Removed/Purged	110,047	reading	Depth to	
Time	(L/min)	(mg/L)	рΗ	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0828	•4	1.03	7.1	-6Z	19,4	35061	2,5	, 2			3.73	
0831	04	0.72	7.2	-73	19.6	31860	2.0	.4			3.75	
0834	.4	0.47	7.2	-79	19.9	32/31	1.7	, 6			3.78	
0837	×4	0.39	7.3	-8/	20.1	33408	1.8	.8			3.82	
0840	1-1	0.34	7.3	-88	20,3	34797	19	1,0			3.86	
0843	.1	0,36	7.3	-87	20.3	34688	2.1	1,2			3,88	
0845	Collect	Sample										
Notes:	te = 0.2 - 0.5 L/m	inuta			•							
_	n shail be <0.33											
SAMPLE	E PARAMETI	ERS										
	SVOCs	3XD.ME	RC	1		T			1		1	
SAMPLE		0.00.1010		<u>.t.,</u>		<u> </u>			<u> </u>		.L	
	1 4/m	, + 4	1º4	T		I			T	· · · · · · · · · · · · · · · · · · ·	T	
Notes:				1		L	· ·	1	<u> </u>		<u> </u>	
	rate for VOCs and	·										
	rate for non-VOC	\sim 1				,						
				Pectic							1/1	
Remarks	: <u>435 c</u>	odorf E	Maci	K LUU	bid u	Jater (g part	ICES) - IVIE	cc. Wa	S-FIPK	1 Filter	<u> </u>
FIELD E	QUIPMENT											
pH Mete	r	HYDROLA	В		Serial	Number #	03682	<u> </u>	Number of	Bottles _	6 X1LA	
Temperature Meter <u>HYDROLAB</u>					Serial	Number #	03682				3X250mLP	
Turbidity Meter HYDROLAB						Number#	03682					
Spec. El	ec. Cond. Me				Serial	Number#	03682		Field Note	book <u>P</u>	9,29	
ORP Meter HYDROLAB					Serial	Number#	03682				J	
D.O. Meter <u>HYDROLAB</u>					Serial	Number#	03682		Sample M	ethod Lo	w Flow	
Interface Probe <u>SOLINST</u>					Serial	Number#	25582	····				
PID/OVA MINI-RAE					Serial	Number#	£00320	·····				-
Pump _	G	EO-PUMP			Serial	Number#	#03001					·
Filter Apparatus GEO45 MICRON									Discharge	Water Co	ontainerized	X Yes No



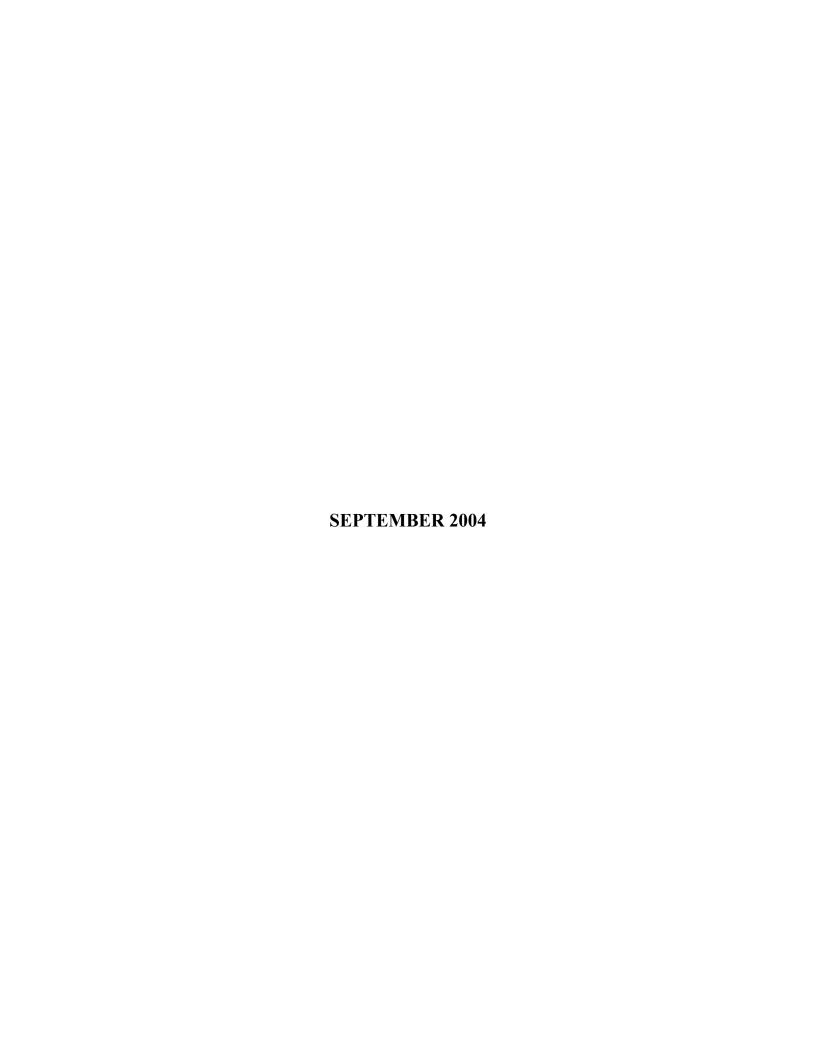
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	144 11 14	14// 00				_	····								
Reference Point TOC PiD Reading (Dockground) Out															
Reference Point TOC PiD Reading (Dockground) Out						Station	Elevation	GND_	TOC	Immiscible	Phases Pr	esent	_Yes \ No		
Reference Point TOC PiD Reading (Dockground) Out						Static V	rater Level (fr	om IOC)/	Time 3,50/09/	<u> </u>	<u> 30/09</u>	16 5.3	0/0917		
Sampling Personnel D. HARRISON MRAMOS Sample ID. 8651-033 Dupticate ID 8651-033 Dupticate ID N/A Depth MRAS (b. D. RPTD Feet of Water Discoher Rate Rate Discoher	·		Site I												
Static Elevation			D 1140010							PID Readin	gs (backg	round) <u>O</u>	yu		
Well Depth MEAS & D RPTD	Sampling			ON	•		-			PID Readin	g (TOC) <u>(</u>)ppin			
Depth of Bottom of Tubing			M.RAMOS												
Depth to Water (w/ Tubling in Well) \$\instrume{5.13Q}\$															
Discharge Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Rate Dissolved Dissolv	-		3		_	Depth o	f Bottom of T	ubing _5.	<u>g</u>						
Discharge Dissolved Rate Oxygen Eh/ORP Temp. (umhos/cm Turbidity Volume of Water Vol	Duplicate	D N/A				Depth to	Depth to Water (w/ Tubing in Well)								
Discharge Discharge Discharge Conduct						·		PURGING							
Discharge Discharge Discharge Conduct															
Rate Coxygen Chromo EHORP Temp. (umbos/cm Turbidity Removed/Purged Location Value Water (ft) Comments					ł		Specific		Cumulative						
Time (Umin) (mg/L) pH (mV) (*C) at *C) (NTU) (Gallons) Location Value Water* (th) Comments			Dissolved	İ					Volume of Water	PID/OVA	Reading				
3 3 0 4 6 7 7 2 2 2 3 4 4 4 5 5 5 5 5 5 5			Oxygen		Eh/ORP				Removed/Purged						
3			(mg/L)		(mV)			(NTU)	(Gallons)	Location	Value		Comments		
3	1313		1.41	691	-18	2832	100.000	ionot	<u> </u>			5,35			
1324	1315	13	0.37	6.89	1-2	27.99	100.000	1000t	3			5.47			
1324	1318	، ځ	0.33	687	20	27.95	108,000	180	,4			5.67			
Notes: Puge rate = 0.2 - 0.5 L/minute Drawdown shall be < 0.33 foot	1321	13	AJI	685	35	27.86		104.7	, 5			5.72			
Notes: Notes: Notes: 2. Drawdown shall be <0.33 foct SAMPLE PARAMETERS 2. XSVOCs		, 3	0.30	695	48	2767	100,000		,7						
Notes: Notes: Notes: 2. Drawdown shall be <0.33 foct SAMPLE PARAMETERS 2. XSVOCs	1375	Treach	van d	WV -	NO S	amale	rollect	ecl				5.87			
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot SAMPLE PARAMETERS 2XSVOCs 1XD.MERC SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Cacc Remarks: 125 odor bxfrewrly fwhicl - dk. gvet n - Trench van dry FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Spec. Elec. Spec. Serial Number #03682 Spec. Elec. Spec. Spec. Spec. Serial Number #03682 Spec. Spe				17		1									
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot SAMPLE PARAMETERS 2XSVOCs 1XD.MERC SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Cacc Remarks: 125 odor bxfrewrly fwhicl - dk. gvet n - Trench van dry FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Spec. Elec. Spec. Serial Number #03682 Spec. Elec. Spec. Spec. Spec. Serial Number #03682 Spec. Spe								·					•		
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot SAMPLE PARAMETERS 2XSVOCs 1XD.MERC SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Cacc Remarks: 125 odor bxfrewrly fwhicl - dk. gvet n - Trench van dry FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Spec. Elec. Spec. Serial Number #03682 Spec. Elec. Spec. Spec. Spec. Serial Number #03682 Spec. Spe			1					1							
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot SAMPLE PARAMETERS 2XSVOCs 1XD.MERC SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Cacc Remarks: 125 odor bxfrewrly fwhicl - dk. gvet n - Trench van dry FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Spec. Elec. Spec. Serial Number #03682 Spec. Elec. Spec. Spec. Spec. Serial Number #03682 Spec. Spe				Ì				 		1					
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot SAMPLE PARAMETERS 2XSVOCs 1XD.MERC SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Cacc Remarks: 125 odor bxfrewrly fwhicl - dk. gvet n - Trench van dry FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Spec. Elec. Spec. Serial Number #03682 Spec. Elec. Spec. Spec. Spec. Serial Number #03682 Spec. Spe			<u> </u>	 		 		 		 					
2. Drawdown shall be <0.33 foot SAMPLE PARAMETERS 2XSVOCs 1XD.MERC SAMPLE RATE Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Welt:	Notes:	L	L	·	·	.1	<u> </u>		L		<u> </u>	<u> </u>			
SAMPLE PARAMETERS 2XSVOCs 1XD.MERC SAMPLE RATE Sample rate for VOCs analysis = 0.1 - 0.2 Uminute 2. Sample rate for non-VCCs analysis = purge rate = 0.2 - 0.5 Uminute 2. Sample rate for non-VCCs analysis = purge rate = 0.2 - 0.5 Uminute Condition of Well:	-														
2XSVOCS 1XD.MERC SAMPLE RATE Notes:	Z. Diawdow	m snali de <0.33	1001												
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well:	SAMPLE	PARAMETI	ERS					···							
Notes: 1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Grac Remarks: \(\frac{1.25}{1.25}\) odiov \(\frac{1.25}{1.25}\) extremely \(\frac{1.25}{1.25}\) ext	2X	SVOCs	1XD.ME	RC	<u> </u>										
1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well:	SAMPLE	RATE													
1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well:	L		<u> </u>												
2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute Condition of Well: Gccc Remarks: \(\frac{\frac		nto for VOCo on	-h-i 0.4 .0.1	3.1. (minud	_										
Remarks: H2S odov / extremely twoic - ck. gveta - Treach van chry FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 1X250mLP Turbidity Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682			•			minute									
Remarks: H2S odov / extremely twoic - ck. gveta - Treach van chry FIELD EQUIPMENT PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 1X250mLP Turbidity Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682	0	- erre 11 /	أء	•											
FIELD EQUIPMENT pH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 1X250mLP Turbidity Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682 Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001				Council	1.41	. 1	Z	ه رسیس .	-1 40.0 1	,			·		
PH Meter HYDROLAB Serial Number #03682 Number of Bottles 2X1LA Temperature Meter HYDROLAB Serial Number #03682 1X250mLP Turbidity Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682 Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001	Remarks	: 17.25 04	WY / EXM	EWIEI	y IWU	14-0	K. gvern	- 1000	ich van ary	<u> </u>	*********				
Temperature Meter HYDROLAB Serial Number #03682 1X250mLP Turbidity Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682 Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001	FIELD E	QUIPMENT							,						
Turbidity Meter HYDROLAB Serial Number #03682 Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682 Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001	pH Meter		HYDROLA	В		Serial I	Number #	03682		Number of	Bottles	2X1LA			
Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Field Notebook PG , 27 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682 Sample Method Low Flow Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001	Tempera	ture Meter	HYDROLA	AΒ	<u> </u>	Serial I	Number #	03682				1X250mLP			
Spec. Elec. Cond. Meter HYDROLAB Serial Number #03682 Field Notebook PG , 27 ORP Meter HYDROLAB Serial Number #03682 D.O. Meter HYDROLAB Serial Number #03682 Sample Method Low Flow Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001	Turbidity	Meter	HYDRO	LAB		Serial I	Number #	03682					•		
ORP Meter HYDROLAB Serial Number #03682 June of the control of th										Field Note	book Pa	. 27			
D.O. Meter HYDROLAB Serial Number #03682 Sample Method Low Flow Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001											Ü				
Interface Probe SOLINST Serial Number #25582 PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001										Sample M	ethod Los	v Flow			
PID/OVA MINI-RAE Serial Number #00320 Pump GEO-PUMP Serial Number #03001										piw 111					
Pump GEO-PUMP Serial Number #03001															
				RON		J61101		30001		Discharge	Water Co	ntainerized	X Yee I		



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Well Nam	ne <u>W1-24</u>				Screen	Interval	6-16					
Project_	CTO 86-Site	1. R3/04			Station I	Elevation	GND	TOC	Immiscible	Phases Pr	esent [Yes X No
Project No	o. <u>1990.08</u>	36E			Static W	/ater Level (fr	om TOC) /	Time 7:50/00	137 7	,50/0	938 7,5	0/0939
Well Loca	tion <u>Moffett</u>	Site 1			Average Water Level (from TOC) 7,50							
Sample [DateS	119/04							PID Readin	gs (backgi	round) Ocy	کنی
Sampling	Personnel	D. HARRIS	ON						PID Readin	g (TOC)	Opport	
		M.RAMOS				levation			Notes	· /-		
					Well De	oth MEAS 2	0,26 F					
Sample I	D 86-S1-041					f Bottom of T						
Duplicate	ID N/A							ell) <u>7.53</u>				
							PURGING					
					ļ	Specific		Cumulative		_		
	Discharge	Dissolved			l_	Conduct.		Volume of Water	PID/OVA	Reading		
-	Rate ¹	Oxygen	.	Eh/ORP		(µmhos/cm		Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1044	,4/	0,58	7.4	-119	2/2./	62072	4.5	i L			7.54	
1047	.4	0.42	7.4	-/24	25.9	60830	4.0	.4	ļ		7.56	
1050	, 4	0,28	7.4	-/25	25,3	62537	4.0	.6		-	7.58	
1053	.4	0,17	7.3	-119	25.0	62741	13.1	18			7.61	
1056	• 4	0.16	7.3	-113	24.9	63355	1516	10		ļ	7.64	
1059	,4	0.14	7.3	-115	24.8	635//	16.3	1,2			7.66	
1102	.4	0.13	7.3	-110	24.7	64162	11.0	1,4	ļ		7.67	
1105	,4	0.13	7,2	1/05	24,8	63037	8,4	1.4			7.68	
1108	.4	0,13	7,2		24.9		5.6	1.8			7.68	
1111		0,12	7,2	-102	24,9	64120	4,2	210	 		1,40	
1/20 Notes:	Gillect	Sample	4		1	l		<u> </u>	<u> </u>	<u> </u>	<u></u>	
_	te = 0.2 - 0.5 L/m vn shall be <0.33											
SAMPLE	PARAMETI	ERS										
2X	SVOCs	1XD.ME	ERC	T				T	Ţ .		<u> </u>	
SAMPLI	RATE						····					
4	4 U/m	140	Tu	I								
2. Sample Condition	11.50		rge rate :	= 0.2 - 0.5 L/			. 61	ld Filtered	,			
Remarks		CHOC	- //	PPC:	<u> 59 µ</u>	gsle wa	S T'/E	AN TITTER	<u> </u>		<u> </u>	
	QUIPMENT		_								01/41 1	
pH Mete	•	HYDROLA					03682		Number of	Bottles _	2X1LA	· · · · · · · · · · · · · · · · · · ·
•	ature Meter _	HYDROL				—	03682				1X250mLP	
_	Meter	HYDRO				***************************************	03682	·		^	٠- ٥٠	
	ec. Cond. Me		ROLAB				03682		Field Note	book	3.51	
ORP Me		YDROLAB					103682					
D.O. Me	***************************************	YDROLAB					103682		Sample M	ethod_ <u>Lor</u>	w How	
		LINST					<u> </u>					
		NI-RAE					#00320					
Pump _		EO-PUMP			Serial	Number	\$03001					DU THE
Filter Ar	paratusC	SEO45 MIC	CRON						Discharge	• Water Co	ontainerized	X Yes No





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												-
Well Name W1-1R					Screen	Interval	14.3-2	4.3			-	
Project	CTO 86-Site	1. R4/04			Station Elevation GND TOC, Immiscible Phases Present Yes X No Static Water Level (from TOC) / Time 8.23 / 0935							
Project No	o. <u>1990.08</u>	36E			Static W	/ater Level (fr	om TOC) /	Time 8:23/09	33 8.2	3/093	8.23	0935
Well Loca	tion <u>Moffett</u>	Site 1			Average	Water Level	(from TOC	<u> 8.23</u>				
Sample D	ate 92	7104			Referen	ce PointT	OC		PID Readin	gs (backg	round) OPF	300
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC) _	000x	
		M.RAMOS				levation			Notes			
					Well De	pth MEAS 1	7,46 F	RPTD	Feet of Wat	ter		
Sample II	D 86-S1-043	3				f Bottom of T						
_	ID N/A				Depth to	o Water (w/ T	ubing in W	ell) 3,23				
-							PURGING					
			ı —	Γ	T .		OKOMO				[
i l			ļ			Specific		Cumulative			1	
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen		Eh/ORP	Temp.	(μmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1045	.4	1.33	6.95	74	23.7	72334	3.5	ol			8:24	
1048	Ý	1.11	7.0	54	13.9	73921	1.4	13			8,21	
1051	.4	0.18	7,05	36	240	15113	1.1	(5			8,28	
1054	, ij	0.43	7.0	35	23.9	75427	1.9	.7			8.28	
1057	. 4	0.74	7.0	33	23.7	75940	9	,4			8,28	
1/00	.4	0,11	1.0	31		16321	1.3	1.1			8.28	
1103	24	0.68	7.0			14641	1.5	1.3			8.28	
1105	Collect											
11-2	00 //e0 V	T. T.	T		1							
-												
		<u> </u>										
Notes:	<u> </u>			<u> </u>		<u> </u>						
-	e = 0.2 - 0.5 L/m n shall be <0.33											
	PARAMETI	1XD.ME	-BC	T		T		T				
	SVOCs	I AD.IVI	:RC	<u> </u>		<u> </u>	·	1	<u> </u>		<u></u>	
SAMPLE	I KAIE	1/	<i>H</i> .	T		Т			1			
Notes:	1 4/m	1,44	<u>"I</u>	<u> </u>		<u> </u>		1	1		<u>1</u>	
1. Sample	rate for VOCs and											
	rate for non-VOC	. 4		= 0.2 - 0.5 🛭	minute							
Conditio	n of Well: <u>(</u>	00d - 0e										
Remarks	: D. Mer	c was	Tie	la fil	PECS C							
FIELD E	QUIPMENT											
pH Mete		HYDROLA	В		Serial	Number#	38518		Number of	f Bottles _	2X1LA	
Temperature Meter <u>HYDROLAB</u>					Serial	Number#	38518				1X250mLP	
Turbidity Meter <u>HYDROLAB</u>					Serial	Number#	38518					
Spec. Elec. Cond. Meter HYDROLAB					Serial	Number#	38518		Field Note	book +G	.34	
ORP Meter <u>HYDROLAB</u>					Serial	Numberf	38518					
D.O. Meter <u>HYDROLAB</u>					Serial	Numberf	/ 38518		Sample M	ethod <u>Lor</u>	w Flow	
Interface Probe SOLINST					Serial	Number	25582					
PID/OV	AMI	NI-RAE			Serial Number #00320					J		
Pump_	G	EO-PUMP			Serial	Number	3A0041		-			<u></u>
Filter Ar	paratus C	3EO45 MI	CRON						Discharge	Water Co	ontainerized	X Yes No



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Well Name W1-5	Screen Interval 14.5-19.5								
Project CTO 86-Site 1, R4/04									
Project No. 1990.086E	Station Elevation GND TOC	Station Elevation GND TOC Immiscible Phases Present Yes _X No Static Water Level (from TOC) / Time 5.54 1023 5.54 1024 5.54 1025							
Well Location Moffett- Site 1		023 3.34/1024 5.54/1025							
Sample Date 9/29/64	Average Water Level (from TOC) 5,54	212.2							
	Reference Point TOC	PID Readings (background)							
Sampling Personnel D. HARRISON	Reference Elevation	PID Reading (TOC)							
M.RAMOS	Static Elevation	Notes							
Completin BC C4 O54	Well Depth MEAS 21.32 RPTD	Feet of Water							
Sample ID <u>86-S1-051</u>	Depth of Bottom of Tubing 17								
Duplicate ID N/A	Depth to Water (w/ Tubing in Well) 5,54								
	PURGING	PURGING							
	Specific Cumulative								
Discharge Dissolved	Conduct. Volume of Water								
Rate ¹ Oxygen Eh/ORI									
Time (L/min) (mg/L) pH (mV)	(°C) at °C) (NTU) (Gallons)	Location Value Water ² (ft) Comments							
1010 14 0.82 6.7 - 38	19.5 71971 2.6 .2	5.57							
1013 .4 0.64 6.7 -54		5,58							
1016 .4 0.57 6.7 - 76	20.3 70/38 2.0 .6	5.60							
1019 4 0.40 6.7 -82	7-0 11 1 0 1	5.61							
1022 .4 0.40 6.7 -86	20.1 70568 2.4 1.0	5.42							
1025 .4 0.41 6.7 -92	20.2 10207 2,2 1.2	5.42							
1028 .4 0.40 6.7 -94	20.0 70336 1.6 1.4	5.62							
1030 Collect Scaple									
Notes:									
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot									
2XSVOCs 1XD.MERC		T							
SAMPLE RATE									
"4 4 m .4 4 m		T T T T T T T T T T T T T T T T T T T							
Notes:									
1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute									
2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.51	Jminute								
Condition of Well: 6000		1 7 11.							
Remarks: Study H25 voor - gree	nish water - D. Merc was field	tillered							
FIELD EQUIPMENT									
pH Meter <u>HYDROLAB</u>	Serial Number #38518	Number of Bottles2X1LA							
Temperature Meter <u>HYDROLAB</u>	Serial Number #38518	1X250mLP							
Turbidity Meter HYDROLAB	Serial Number #38518								
Spec. Elec. Cond. Meter HYDROLAB	Serial Number #38518	Field Notebook Pq. 39							
ORP Meter HYDROLAB	Serial Number #38518								
D.O. Meter HYDROLAB	Serial Number #38518	Sample Method Low Flow							
Interface Probe SOLINST	Serial Number #25582								
PID/OVA MINI-RAE	Serial Number #00320								
Pump GEO-PUMP	Serial Number BA0041								
Filter Apparatus <u>GEO45 MICRON</u>		Discharge Water Containerized X Yes No							



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Date _	9/27	/04_	

							·							
Well Nan	ne <u>W1-8</u>			1	Screen	Interval	13-18							
Project _	CTO 86-Site	1. R4/04			Station Elevation GND TOC Immiscible Phases Present Yes X No Static Water Level (from TOC) / Time 5.41/1027 5.41/1028 5.41/1029									
Project N	o. <u>1990.0</u>	86E			Static V	Vater Level (f	rom TOC)	Time 561/10	7.7 5	41/207		Ties E	71 140	
Well Loca	ation Moffett	- Site 1			Average Water Level (from TOC) 5:61						1102	<u> </u>		
	Date 9/2		_		Reference Point TOC				PID Readings (background) (Opple) PID Reading (TOC)					
	Personnel _		ON		Reference Elevation				PID Readir	ngs (backg	round) <u>(()) (</u>	<u> </u>		
	-	M.RAMOS							PID Readir	ng (100)_	Uppin			
	·	MANAGO			Static Elevation				Notes					
Sample	D 86-S1-05	2			Well Depth MEAS 12.67 RPTD Feet of Water									
1	e ID <u>86-S1</u>				Depth of Bottom of Tubing 15.5									
Dopiicat	- ID <u>- 00-01</u>	-000			Depth to Water (w/ Tubing in Well) 5.1.									
				,			PURGING							
					Ì		}							
						Specific		Cumulative			[]			
	Discharge	Dissolved	1			Conduct.		Volume of Water	PID/OVA	Reading				
	Rate ¹	Oxygen		Eh/ORP	,	(µmhos/cm	Turbidity	Removed/Purged			Depth to			
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comm	ents	
1254	,4	0.77	6.9	-43			2,8	,2			5.45			
1257	, 4	0,80	6.9	-44	24,0	70639	2.2	14			5,68			
1300	,4	0.82	6.9		22.7	7/445	2.6	,6			5.70			
1303	.4	0.83	6.9	-44	20.6	71849	2.0	, 8			5.12			
1305	Collec	Some	le											
1315	Collect	Field	Di	1 0.										
													$\neg \neg$	
													-	
Notes: 1. Purge rat	e = 0.2 - 0.5 L/mi	nute								· · · · · · · · · · · · · · · · · · ·	<u> </u>			
2. Drawdow	n shall be <0.33 t	foot											•	
SAMPLE	PARAMETE	RS												
4X	SVOCs	2XD.ME	RC											
SAMPLE	RATE										· · · · · · · · · · · · · · · · · · ·			
, 4	144	141/	M									T		
Notes:								·			L			
	ate for VOCs ana ate for non-VOCs				ninute									
	C	1-20	3											
	of Well:		1		44 + 56	. 3. 6	Field	Filterel			······································			
Remarks	Clay	1 HQ-5 C	COV	, 40,	MERC	. Was	ricig	1 2 1 14 261						
FIELD E	QUIPMENT						*							
pH Meter		HYDROLAE	3		Serial N	lumber#3	38518		Number of	Bottles	4X1LA			
Temperat	ure Meter	HYDROLA	В		Serial N	lumber#3	38518				2X250mLP			
Turbidity	-	HYDRO			Serial N	lumber <u>#3</u>	38518							
Spec. Elec. Cond. Meter <u>HYDROLAB</u>					Serial N	iumber <u>#3</u>	38518		Field Noteb	ook Pa	5. 39+4	O_		
ORP Met	ORP Meter HYDROLAB					lumber <u>#</u>	38518		***************************************					
D.O. Met	D.O. Meter HYDROLAB					Serial Number #38518				Sample Method <u>Low Flow</u>				
Interface	nterface Probe <u>SOLINST</u>					Serial Number #25582								
PID/OVA	PID/OVA MINI-RAE					Serial Number #00320								
Pump	GE	O-PUMP			Serial N	iumberB	A0041			· · · · · · · · · · · · · · · · · · ·				
Filter App	aratus Gl	EO45 MIC	RON						Discharge	Water Con	ntainerized	X Yes	□ No	



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Date	0/27/04	

			-										
Well Nan	ne <u>W1-12</u>	R			Screen	Interval	15-25						
Project _	CTO 86-Site	1, R4/04			Station Elevation GND TOC Immiscible Phases Present Yes X No								
Project N	o. <u>1990.0</u>	86E			Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 2.93 / 10/2 2.93 / 10/2 2.93 / 10/4								
Well Loca	tion <u>Moffett</u>	Site 1			Average	Average Water Level (from TOC) 3.73							
Sample [Date 9/28	304			Reference Point TOC				PID Readings (background)				
Sampling	Personnel	D. HARRIS	ON		Reference Elevation				PID Peadir	iga (bacily ig (TOC)	10 AA	<u> </u>	
		M.RAMOS							Motos	ig (100)_	- Office		
				-	Well De	enth MEAS	5.16	PPTD	Notes	tor			
Sample I	D 86-S1-048	3			Well Depth MEAS 25.66 RPTD Feet of Water								
_	ID 86-S1-				-			ell) 2.43		······			
					Бориго			Cit) <u>B. 7 7 2</u>					
<u> </u>					ι	<u> </u>	PURGING						
			1										
	Dinaharaa					Specific		Cumulative	DID (0) (4				
	Discharge Rate ¹	Dissolved		F1 (0.00		Conduct.		Volume of Water	PID/OVA	Reading	_		
Time		Oxygen	nu.	Eh/ORP		(µmhos/cm	Turbidity	Removed/Purged			Depth to		
	(L/min)	(mg/L)	pH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
0759	.4		6.9	62		83768	4,2				2,95		
0802	.4		6.9	56	17.0	83196	4,6	,3			2.96		
0805	.4		4,9	41	17.2	82304	5.8	_5_			2.96		
0808	,4	0.50	6.9	38	17.3	82168	5.2	./			2.96		
0811	.4	0.43	6.9	36	17.4	81940	4,6	.9			2.96		
0814	.4	0.41	6.9	33	17.5		4.4	1.1			2.96		
0817	<i>.</i> 4		6.9	<i>3</i> 3	11.6	8/458	3.8	1.3			2.96		
0820	Collect	Somp											
0825	Collect	Field	10	plica	e								
			<u> </u>										
_	e = 0.2 - 0.5 L/min										-		
	PARAMETE												
				r									
<u> </u>	SVOCs	2XD.ME	RC	<u> </u>	·	L					<u></u>		
SAMPLE		- //	,										
Notes:	<u></u>	, 4		<u> </u>									
1. Sample ra	ate for VOCs analate for non-VOCs	•			ninute								
Condition	of Well: G	sod											
	Slight 1		,50			···			······································				
	UIPMENT							****		···			
pH Meter		HYDROLAE	ı		Serial N	lumbor #3	38518		Alianahan ad	D-44	4741.4		
•	ure Meter	HYDROLA			Serial N		38518		Number of	Dotties	4X1LA	•	
Turbidity		HYDROL						 		·	2X250mLP		
-	c. Cond. Met				Serial N		38518 1951 9		Field M	- A	271 =	? c.	
-			~LMD		Serial N		38518 38548		Field Noteb	юок <u>, 95</u>	37+ 3)ර	
ORP Met		DROLAB DROLAB			Serial N		88518						
D.O. Mete		DROLAB			Serial Number #38518				Sample Method <u>Low Flow</u>				
	Probe <u>SOL</u>				Serial N		25582			1			
PID/OVA		II-RAE			Serial Number <u>#00320</u>								
Pump		O-PUMP			Serial N	iumber <u>B</u>	40041		-				
Filter App	aratus <u>G</u>	EO45 MIC	RON	·					Discharge 1	Water Con	ntainerized	X Yes No	



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Well Nam	e W1-14				Screen	Interval	4.1-14	.1					
Project	CTO 86-Site	1, R4/04			Station Elevation GND TOC Immiscible Phases Present Yes X No								
Project No	o. <u>1990.08</u>	36E			Static Water Level (from TOC) / Time 5.54/1003 5.85/1004 5.84/1005								
Well Loca	tion Moffett-	Site 1			Average Water Level (from TOC) 5/8/								
Sample D	Date 9/27	104							PID Readings (background) Once				
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation			PID Readin	g (TOC)	Ossan		
		M.RAMOS			Static Elevation				Notes	•	77		
								RPTD		ter			
Sample I	D 86-S1-047	7			Depth o	f Bottom of T	ubina 9.1	<u> </u>					
Duplicate	D MS/MS	SD			Depth to	o Water (w/ T	ubing in W	ell) <u>5.84</u>					
							PURGING						
1		!				İ						1	
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP		(μmhos/cm		Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1342	44	0.74	6.4	7	30.4	64140	1.9	1			5,85		
1345	.4	0.76	6.4	-9	29.1	66370	2.9	· <i>3</i>			5.88		
1348	, 4	0.76	6.3	-14	27,3	70922	3.2	، خ			5.40	<u></u> j	
1351	,4	0.74	63	-14	28.0	73138	2.4	• 7			5.91		
1354	<i>4</i>		6.3	-15	25.0	73740	2,2	, 9			5,91		
1355	Collect	Sample											
					1								
			<u> </u>										
<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>		l	<u> j</u>		
_	e = 0.2 - 0.5 L/mi n shall be <0.33												
SAMPLE	PARAMETE	ERS											
	SVOCs	3XD.ME	RC	1	-				<u> </u>		1		
SAMPLE		0,12		<u> </u>		L			<u> </u>		<u> </u>		
	Llm	1440	<u> </u>	T		T T							
Notes:								·	J		1		
•	ate for VOCs and ate for non-VOCs	•			ninute								
	_	1	30										
	of Well:			11/ (:	14250	- (1)	lacela	i i lino					
	: <u>D. Men</u>	c. likes	T	eld ti	17777	- Color	1655/5	slight H2S C	MOS				
FIELD E	QUIPMENT												
pH Meter		HYDROLAI					<u>38518</u>		Number of	Bottles	6X1LA		
•	ture Meter						38518			····	3X250mLP		
Turbidity		HYDRO					38518 38548		Fig. 1. A. A. A. A. A. A. A. A. A. A. A. A. A.	. An	s. 35+3	> <i>i</i>	
Spec. Elec. Cond. Meter HYDROLAB						—	38518 38548		rield Notel	000K	ر, دی ،د	· (->	
ORP Meter HYDROLAB							38518		0	Athanai			
	D.O. Meter HYDROLAB					Serial Number #38518				Sample Method <u>Low Flow</u>			
	Probe <u>SO</u>						25582 20220	·					
PID/OVA		NI-RAE					00320						
Pump		EO-PUMP	PON		Serial I	NumberB	A0041		Discharge	\Mater Co	ntainerized	X Yes No	
Filter Ap	ualaius G	EO45 MIC	NUM							TYGIC! UU	i itali ici izcu	1/1 100 11/0	



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-													
Well Nan	ne <u>W1-15</u>	5			Screen	Interval	44-14	14		'' '' '' ''			
Project _	CTO 86-Site	1, R4/04			Station	Elevation	GND	TOC	Immiscible	Dhaese Di			
Project N	o. <u>1990.0</u>	86E	•		Static V	Vater I evel (fi	rom TOC)	TOC Time <u>5,93/09</u>	21. S	Hases Pi	resent [Yes No	
Well Loca	ation <u>Moffett</u>	- Site 1			Average	Water Level	(from TOC	1 507	<u> </u>	1010	3/1	0/0938	
	Date 9 2				Average Water Level (from TOC) <u>5.43</u> Reference Point <u>TOC</u>				PID Readings (background)				
Sampling	Personnel _	D. HARRIS	ON		Reference Elevation				PID Readir	igs (backg	round) Upp	ka	
		M.RAMOS	 		- · · · -				Notes	ig (100)_	ypm		
					Static Elevation Well Depth MEAS 17.74 RPTD				Notes				
Sample I	D 86-S1-04	4				of Bottom of T			reet of vva	ter	· · · · · · · · · · · · · · · · · · ·		
	e ID <u>N/A</u>				Dopth t	o Motor (w/ 'T	ubing <u>9.</u>	4 G2					
					Depuis	o vvaler (w/ i	ubing in vv	ell) 5,93					
		Γ	1	i	1	I	PURGING						
	Discharge Rate ¹	Dissolved Oxygen		Eh/ORP	Temp.	Specific Conduct. (µmhos/cm	Turbidity	Cumulative Volume of Water Removed/Purged	PID/OVA	Reading	Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1140	, 4 L/m	0,94	6.41	1/_	13.5	72103	1.9	. /			5,95		
1143	.4	Ø.78	6.4	4	27.2	70998	1.4	, 3			5.97		
1144	.4	0.77	6.3	-7	26.4	7/446	1.1	15			5,99		
1149	. 4	0.75	6.3	-11	25.4	72037	,7	. 7			6.01		
1152	,4	0.72	6.3	~11		72313	1.0	.9			601		
1/55	Collect	Sample									-92,07		
		7				******************************						-	
						· · · · · · · · · · · · · · · · · · ·							

_	e = 0.2 - 0.5 L/mi n shall be <0.33		!		<u> </u>								
SAMPLE	PARAMETE	:RS											
	SVOCs	1XD.ME	PC.										
SAMPLE		I IAD.IVIE	.KC	<u> </u>		L					······		
	L/M	111	1	<u> </u>									
Notes:	9/4	,44,	120	<u> </u>									
2. Sample n	ate for VOCs ana ate for non-VOCs of Well:	analysis = purç			ninute								
	clearle	1	s whi	<u>er</u> -	Ð.	Merc. 11	hs fi	eld fitered					
FIELD E	QUIPMENT												
pH Meter		HYDROLAE	₹		Serial N	lumher #3	8518		Number of	Rottlee	2X1LA		
•	ure Meter	HÝDROLA			Serial N		8518		Number of	Domes			
Turbidity		HYDROL			Serial N		38518				1X250mLP		
•	c. Cond. Met				Serial N		38518		Field Noteb	ook Da	34		
ORP Met		DROLAB	<u>, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</u>		Serial N		8518 8518		I IEIG IVOLED	- 	7		
D.O. Met		DROLAB			Serial N		88518		Sample Me	thod low	Flow		
	Probe SOI				Serial N		25582		Jampie Me	ou <u>Low</u>	LIUVY		
PID/OVA		II-RAE			Serial N		0320		·				
Pump		O-PUMP			Serial N		A0041						
Filter App		EO45 MICI	RON		301W11		799 T.L		Discharge \	Nater Con	tainerized [X Yes No	
									-1001101 NG		4411 FI ECU	VI 169 140	



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Date <u>9/27/04</u>	

Well Nar	ne <u>W1-16</u>	3			C	l=41		_					
	CTO 86-Site					Screen Interval 5.4-15.4 Station Elevation GND TOC Immiscible Phases Present Ves X No.							
	o. <u>1990.0</u>					The pylike							
	ation Moffett						-		<u> </u>	<u>04/103</u>	6 7.09	1037	
Sample		25/04			Average Water Level (from TOC) 7.09 'Reference Point TOC								
	Personnel_		ON		Referen	nce PointT	oc		PID Readir	igs (backg	round) <u>θρ</u> ρ	<u>~</u>	
Sampling			ON		Reference Elevation				PID Readir	g (TOC) _	Oppm!		
	·	M.RAMOS			Static Elevation				Notes				
Cample	D 86-S1-05					Well Depth MEAS 18,24 RPTD Feet of Water							
1 '	e ID <u>N/A</u>	5),4					
Duplicat	e ID N/A				Depth to Water (w/ Tubing in Well) _7.07								
			,	1		ı	PURGING						
			l	İ	•								
	Dis. I		İ			Specific		Cumulative					
1	Discharge	Dissolved	ļ		l_	Conduct.		Volume of Water	PID/OVA	Reading			
Time	Rate ¹ (L/min)	Oxygen		Eh/ORP			Turbidity	Removed/Purged			Depth to		
1449	.4	(mg/L) 0.84	pH	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1452	,4	0.65	6.6	-18	32.1	68/86	32	<u> </u>			7.11		
1455	.4		6.6	 	31.6		2.4	r 2			7.12		
1458	.4	0.64	6.6	- 13	30.8	69251	24	.4			7.12		
1501	, 4	0.63	6.7	-14	294	70139	1.40	.5			7.13		
1504	- 77	0.60	4.7	-13	18.5	70936	1.0	.7			7./3	***	
1505	Collect		4.7	712	3113	71475	1.4	, 4			7.13		
1303	(B)1801	Sauple	 		ļ								
			-										
			<u> </u>										
			 	-	-								
Notes:			L	L	L	L							
	= 0.2 - 0.5 L/mi n shall be <0.33												
SAMPLE	PARAMETE	RS											
2X:	SVOCs	1XD.ME	RC	l							·	Ţ	
SAMPLE	RATE		***********	·			······································						
,40	In	14 40	4									T	
	ate for VOCs ana	lysis = 0.1 - 0.2	Uminute		<u>,</u>								
	ate for non-VOCs	A	je rate =	0.2 - 0.5 L/m	ninute								
	of Well: _G	200	- 1			· · · · · · · · · · · · · · · · · · ·							
Remarks	Strong 1	HAS ode	<u> </u>	greenis	h-br	0W1 . D	- Merc.	was field -	ri tered				
	QUIPMENT			-									
pH Meter		HYDROLAE			Serial N	lumber <u>#3</u>	8518		Number of	Bottles	2X1LA		
•	ure Meter	HYDROLA			Serial N	lumber <u>#3</u>	8518				1X250mLP		
Turbidity		HYDROL			Serial N		8518						
	Spec. Elec. Cond. Meter <u>HYDROLAB</u>				Serial N		8518		Field Noteb	ook <u>49.</u>	41		
	ORP Meter HYDROLAB				Serial Number #38518								
	D.O. Meter HYDROLAB				Serial Number #38518				Sample Met	hod <u>Low</u>	Flow		
	nterface Probe SOLINST					Serial Number <u>#25582</u>						·	
PID/OVA							0320						
Pump		O-PUMP			Serial N	lumber <u>B</u>	\0041				-		
riiter App	aratus <u>G</u>	EO45 MICI	RON					· · · · · · · · · · · · · · · · · · ·	Discharge \	Vater Con	tainerized	X Yes No	



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Well Nor	ne <u>W1-19</u>				_							
	CTO 86-Site				Screen Interval 14-19							
	o. <u>1990.0</u>				Station Elevation GND TOC Immiscible Phases Present Yes \(\overline{\text{No}} \) No Static Water Level (from TOC) / Time $\frac{5.47}{0959} = \frac{5.47}{0959} = $							
-	ation <u>Moffett</u>				Static v	Vater Level (f	rom TOC)	Time <u>3:47/01</u>	<u>54 S</u>	<u>,47/09:</u>	<u> 5, 9</u>	47/0956
	Date 9 2									······································		_ <u>-</u>
			-		Reference Point TOC				PID Readir	ngs (backg	round) <u>Uf</u>	Deg
Sampling	Personnel	-	ON		Reference Elevation				PID Readir	ng (TOC)	3. 6ppin	
		M.RAMOS			Static Elevation				Notes			
					Well Do	Well Depth MEAS 21, 19 RPTD Feet of Water						
1	D <u>86-S1-04</u>	5			Depth of Bottom of Tubing 16.5							
Duplicat	e ID <u>N/A</u>				Depth to Water (w/ Tubing in Well) <u>5.47</u>							
							PURGING					
	2					Specific	l	Cumulative	Ì			
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading	1	
	Rate ¹	Oxygen		Eh/ORP	Temp.	(μmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
1244	٠, ٧	0.89	6.44	43	29.9	76304	2,5	-/			5.49	
1247	١٠,	0.70	6.41	55	28,6	70934	3.2	. 3			5.53	
1350	. 4	0.54	6.4	40	27.1	71116	3.6	13			5,53	
1253	.4	0.54	6.4		24.8		3,8	, 7	<u> </u>	<u> </u>	5.54	
1254	.4	0.52			24.5	71494	3,5	.9			5,45	
1300	Collect	Sample					<i>y</i> , y				7//	
		·										
			T -							<u> </u>		
				<u> </u>								
							 -					
Notes:	<u> </u>	L	<u> </u>		<u> </u>	L	<u> </u>	L	L		<u> </u>	
_	e ≈ 0.2 - 0.5 L/mii n shall be <0.33 i											
	PARAMETE					· · · · · · · · · · · · · · · · · · ·						
<u> </u>	SVOCs	1XD.ME	RC	<u> </u>		<u> </u>		L	l			
SAMPLE		· .										
Notes:	44	444	4	<u> </u>		<u> </u>						
1. Sample n	ate for VOCs ana											
2. Sample n	ate for non-VOCs	analysis = purg	ge rate =	0.2 - 0.5 L/n	ninute							
Condition	of Well: <u>كون</u>	<i>i</i> id										
Remarks	: Water i	s celor	ess /	loclor le	<u> </u>	- D. Men	<i>د. س</i> مح	tield filte	rect		•	
FIELD E	QUIPMENT		•		-							
pH Meter		HYDROLAE	ì		Serial N	lumber #3	38518		Number of	Pottles	2X1LA	
	ture Meter	HYDROLA			Serial N		38518		Number of	Dotties		
_ •					Serial N		38518				1X250mLP	
•	Turbidity Meter HYDROLAB Spec. Elec. Cond. Meter HYDROLAB						38518		Field Notes	and Par	35	
	ORP Meter HYDROLAB								Field Noteb	OOK 101	32	
D.O. Meter HYDROLAB					Serial Number #38518				Commis 34	tional 1 - · ·	. [7]	
	Interface Probe SOLINST				Serial Number #38518				Sample Me	นา00 <u>_L0W</u>	LIOM	· · · · · · · · · · · · · · · · · · ·
PID/OVA		II-RAE			Serial Number #25582				********			
Pump		O-PUMP			Serial Number #00320 Serial Number BA0041							
Filter App		0-F0WF E045 MICI	RON		Oction I	euribei <u>Di</u>	A0041		Discharge \	Mater Co-	tainorizad	VIV.
,	a.a.	E O LAU TAIL O	VIN						Discharge \	ANGICI COU	ıtali lei i∠e0 🍦	X Yes No



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Date	9/27/04	

Well Nar	ne W1-22	2			Screen	Interval	NI/A					
	CTO 86-Site			<u> </u>				TOC	1			
	lo. <u>1990.0</u>				Statio V	Motor Love! (f	GND.	100	Immiscible	Phases P	resent	∐Yes ⋈ No
	ation Moffett				Averes	valer Level (II	rom TOC)	/ Ime_ <u>\$, 19/10</u>	<u> 17 </u>	19/101	<u>8 3.7</u>	9/10/9
	Date			 -					Immiscible Phases Present Yes No			
	Personnel_		ON		Referen	nce Point	OC		PID Readir	ngs (backg	pround) <u>Opp</u>	14
Samping			ON		Referer	nce Elevation	· · · · · · · · · · · · · · · · · · ·		PID Readir	ng (TOC)	Oppu	
		M.RAMOS			Static E	levation	/		Notes		* 1	
-						Well Depth MEAS <u>& . & ブ</u> RPTD <u>6.7</u> Feet of Water						
	ID 86-S1-05	0		<u> </u>		Depth of Bottom of Tubing						
Duplicat	e ID <u>N/A</u>				Depth t	o Water (w/ T	ubing in W	/ell) <u>3.79</u>				
						PURGING						
						Specific		Cumulative				i
	Discharge	Dissolved			1	Conduct.		Volume of Water	PID/OVA	Reading		
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0913	.4	1.31	6.8	4	20.1	45876	9.6	./		Value	3.81	Comments
0916	.4	0.73	6.8		20.4	45409	7.2	,3	 			
0919	.4	0.51	6,8		20.6	45002	6.5	. 5	 		3.84	
0922	.4	0.49	4.8		20.9		60	,7			3.86	
0 925	.4	0.47	6.8	-27	20,8		6.2	19			3.87	
0930	Collect	Saupl		-	20,5	99717	0.2	- 17			3.93	
1	C- //cc	-4-101										
			 									
					 							
			<u> </u>									
Notes:		L	<u> </u>	l	<u></u>						L <u>_</u>	
_	e = 0.2 - 0.5 L/mi n shall be <0.33 i											
SAMPLE	PARAMETE	RS										
2X5	SVOCs	1XD.ME	RC									1
SAMPLE	RATE										L	
14	c/m	644	m									
Notes:										······································	<u> </u>	
Sample n Sample n	ate for VOCs ana ate for non-VOCs	lysis = 0.1 - 0.2	L/minute) 02 051/	.14_							
		4	je rate –	0.2 - 0.5 111	mule	•						
	<u>حُ) .</u> :of Well			-	***				···			
Remarks:	H2500	101 - G1	een!	5h/6ve	our	water						
FIELD E	QUIPMENT											
pH Meter		HYDROLAB			Serial N	umber #3	8518		Number of	Bottles	2X1LA	
Temperat	ure Meter	HYDROLA	В		Serial N		8518				1X250mLP	
Turbidity	Meter	HYDROL	AB		Serial N		8518				TAZOOTTE	
-	c. Cond. Met				Serial N		8518		Field Noteb	ook Da	. 38	
ORP Met		DROLAB			Serial N		8518		, .C.G 140(CD			
D.O. Met		DROLAB			Serial N		8518		Sample M-	thod 1	Clour	
	Probe SOL				Serial N		5582	 	Sample Me	ulou <u>Low</u>	LIOM	
PID/OVA		I-RAE			Serial N			 				
Pump		O-PUMP		 .			0320					
Filter App		EO45 MICE	RON		Serial N	uniberDF	\0041		Dioche '	Not 0	F	77. TT.
		- VIVIO							Discharge \	vater Con	itainerized	X Yes No



Page_	_1_	of_	_1
Date _	9/27/	04	

0720 .3 0.46 7.0 -24 19.8 100,000 + 1000 + 1 5.44 0723 .3 0.43 6.9 -4 .20.0 100,000 + 1000 + .2 5.57 0724 .3 0.34 6.9 8 20.1 100,000 + 625 .3 5.66	
Sample Discharge Dissolved Rate¹ Oxygen Time (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons)	
Sample Date Sample Date Sampling Personnel D. HARRISON M.RAMOS Static Elevation Well Depth MEAS () RPTD 6.0 Sample ID 86-S1-046 Duplicate ID N/A Discharge Rate¹ Oxygen (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Time (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (mV) (mV) (mV) (mV) (mV) (mV) (mV)	
Sample Date Sample Date Sampling Personnel D. HARRISON M.RAMOS Static Elevation Well Depth MEAS () RPTD 6.0 Sample ID 86-S1-046 Duplicate ID N/A Discharge Rate¹ Oxygen (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Time (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (mV) (°C) at °C) (NTU) (Gallons) Discharge (L/min) (mg/L) pH (mV) (mV) (mV) (mV) (mV) (mV) (mV) (mV)	
Sampling Personnel D. HARRISON M.RAMOS Static Elevation Meference Elevation Meference Elevation Meference Elevation Meference Elevation Mell Depth MEAS A Reference Elevation Notes Well Depth MEAS A REFTD 6.0 Depth of Bottom of Tubing S.80 Depth to Water (w/ Tubing in Well) 5.34 PURGING PURGING PID Reading (TOC) DAD A NOTES Feet of Water Cumulative Volume of Water Removed/Purged (Gallons) Correct Introduction Value Water (it) Correct Introduction Correct Introduction Value Water (it) Correct Introduction Correct Introduction Value Water (it) Correct Introduction Correct Introduction Correct Introduction Correct Introduction Value Water (it) Correct Introduction Correct Introduction Correct Introduction Correct Introduction Value Water (it) Correct Introduction Correct Introduction Correct Introduction Correct Introduction Value Water (it) Correct Introduction Correct Introduction Correct Introduction Correct Introduction Value Water (it) Correct Introduction Correct Introdu	
Notes Not	
Sample ID 86-S1-046 Depth of Bottom of Tubing S.80 Depth to Water (w/ Tubing in Well) S.34 Depth	
Depth of Bottom of Tubing 5,80 Depth to Water (w/ Tubing in Well) 5,34	
Depth of Bottom of Tubing S.80	
PURGING Discharge Rate¹ Dissolved Oxygen (IL/min) Eh/ORP pH (mV) Temp. (μmhos/cm at °C) Cumulative Volume of Water Removed/Purged (IL/min) PID/OVA Reading PID/OVA Reading Removed/Purged (Gallons) Depth to Water² (ft) Co 0 720 . 3 0 .44 7.0 -24 19.8 1co, coo + 1000 + 1 1 5.44 0 723 . 3 0 .43 6.9 -4 20.0 /20,000 + 1000 + 1 . 2 57.57 0 724 . 3 0 .34 6.9 9 20.1 /20,000 + 625 . 3 5.66	
Discharge Rate¹ Oxygen (IL/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Location Value Water² (ft) Co 0720 . 3 0.43 6.9 -4 20.0 /20,000 + 1000 + 12 0724 . 3 0.34 6.9 9 70 120,000 + 1000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0725 . 3 0.34 6.9 9 70 120,000 + 12 0	
Discharge Dissolved Rate¹ Oxygen Eh/ORP Temp. (μmhos/cm Turbidity Removed/Purged (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Location Value Value Volume of Water Removed/Purged (Gallons) Location Value Va	
Time (L/min) (mg/L) pH (mV) (°C) at °C) (NTU) (Gallons) Location Value Water (ft) Co 0720 . 3 0.46 7.0 -24 19.8 100,000 + 1000 + 1	
0720 .3 0.46 7.0 -24 19.8 100,000 + 1000 + 1 5.44 0723 .3 0.43 6.9 -4 20.0 100,000 + 1000 + .2 5.57 0724 .3 0.34 6.9 8 20.1 100,000 + 625 .3 5.66	
0723 3 0.43 6.9 -4 20.0 100,000 t 1000 t .2 5.57 0724 3 0.34 6.9 8 20.1 100,000 t 625 3 5.66	mments
0724 3 0.34 6.9 8 20.1 100,000 + 625 3 5.66	
$\begin{bmatrix} 0.710 \\ 1 \end{bmatrix}$	
5.74	
121 13/3/	
E733 Trench van dry	
Notes:	
1. Purge rate = 0.2 - 0.5 L/minute 2. Drawdown shall be <0.33 foot	
SAMPLE PARAMETERS	
2XSVOCs 1XD.MERC	
SAMPLE RATE	
ORIFIE IVATE	
Notes:	
1. Sample rate for VOCs analysis = 0.1 - 0.2 L/minute 2. Sample rate for non-VOCs analysis = purge rate = 0.2 - 0.5 L/minute	
Condition of Well: Gard	
Remarks: 425 odar / extremely turbed - Green/Black	
FIELD EQUIPMENT	
pH Meter HYDROLAB Serial Number #38518 Number of Bottles 2X1LA	*
Temperature Meter HYDROLAB Serial Number #38518 1X250mLP	
Turbidity Meter HYDROLAB Serial Number #38518	
Spec. Elec. Cond. Meter HYDROLAB Serial Number #38518 Field Notebook	
ORP Meter HYDROLAB Serial Number #38518	
D.O. Meter HYDROLAB Serial Number #38518 Sample Method Low Flow	
Interface Probe SOLINST Serial Number #25582	
PID/OVA MINI-RAE Serial Number #00320	
Pump GEO-PUMP Serial Number BA0041	
Filter Apparatus GEO-45 MICRON Discharge Water Containerized X Ye	



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Well Nar	ne W1-2	4			Screen	Interval	6 16						
	CTO 86-Site					Elevation		TOC	l	-	. 1		
	o. <u>1990.</u> 0								Immiscible	Phases P		Yes ☑ No	
-	ation Moffet							Time 7.25/		25/	7.34	-	
	Date 1/2					e Water Level							
	Personnel_				Referer	nce PointT	oc				round) Op	on	
Samping			SON						PID Readir	ng (TOC)	Oppin'		
		M.RAMOS				levation			Notes				
					Well De	epth MEAS 🚄	0.26	RPTD					
	D 86-S1-05	4				of Bottom of T							
Duplicat	e ID <u>N/A</u>				Depth t	o Water (w/ T	ubing in W	/ell) <u>7.25</u>					
		<u> </u>			,		PURGING		•				
						Specific		Cumulative					
	Discharge	Dissolved			ł	Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP		1 "	Turbidity	Removed/Purged			Depth to	:	
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1347	,4	0.85	6.73		25,1	65828	10.0	o l			7.27		
1350	,4	0.76	6.1	-41	25,4	6645D	12.6	12			7.30		
1353	. 4	0.63	6.7	-48	24.9	66937	9.4	,4			7.31		
1356	,4	0.31	6.7	-49	24.2	67332	7.6	,6			7.32		
1359	.4	0,28	67	-50	24.0	61743	7.4	18			7.33		
1402	.4	0.27	6.7	-50	23.7	68039	8.5	1.0			7.35		
1405	Collect	Sayde						7			7.50		
				<u> </u>									
				 									
	e = 0.2 - 0.5 L/mi		L	I	L;				L		<u></u>		
z. Diawdow	n shall be <0.33	TOOT											
	PARAMETE							·					
2X	SVOCs	1XD.ME	RC										
SAMPLE	RATE												
041	/m .	,44	4										
	ate for VOCs ana ate for non-VOCs				ninute							······································	
Condition	of Well: G	excel		,			,						
Remarks	Haso	100 - C	reen	15) / BY	own 1	occluded	. 0, 1	Merc. Was	field	Filty	ered		
	UIPMENT	· · · · · ·				<u> </u>	<u> </u>						
pH Meter		HYDROLAB			Serial N	lumber#3	8518		Number of	Bottles	2X1LA		
Temperat	ure Meter	HYDROLA	В		Serial N	lumber #3	8518				1X250mLP		
Turbidity	Meter	HYDROL	AB.		Serial N	lumber #3	8518						
_	c. Cond. Met	er HYDRO	DLAB		Serial N		8518		Field Noteb	ook Pa	,40		
ORP Met	-	DROLAB			Serial N		8518		, 1014 110160				
D.O. Met		DROLAB			Serial N		8518		Sample Mar	thad I am	Elow		
	Probe SOL				Serial N	·	5582		Sample Me	a lou <u>Low</u>	FIOW		
PID/OVA		II-RAE									······································		
Pump		O-PUMP			Serial N		0320						
. —			- NO		Serial N	iuiiibei <u>B/</u>	10041		Die		г		
Filter App	aratus <u>Gl</u>	<u> </u>	TUN						Discharge \	Vater Con	tainerized	X Yes No	





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Date_	12/13/0	4

								· · · · · · · · · · · · · · · · · · ·				
Well Nan	ne <u>W1-1</u> F	1			Screen	interval	14.3-2	4.3				
Project _	CTO 86-Site	1.			Station I	Elevation	GND _	TOCTOCTime <u>8.06/09/</u>	Immiscible	Phases Pr	esent [Yes X No
Project N	o. <u>1990.0</u>	86E			Static W	/ater Level (fr	om TOC) /	Time 8.06/09/	Z 8.0	05/09/3	3 8.0	5/09/4
Well Loca	ation <u>Moffett</u>	Site 1			Average	Water Level	(from TOC	8.05				
Sample !	Date 12	1304			Referen	ce Point <u>T</u>	oc		PID Readings (background) OPAL			
Sampling	Personnel _	D. HARRIS	ON						PID Readin	g (TOC) _	Opput	
		M.RAMOS			Static Elevation RPTD							
					Well De	pth MEAS 🏖	<u>7.45</u> f	RPTD	Feet of Wat	ter		
Sample	ID <u>86-S1-07</u>	1			-	f Bottom of T						
Duplicat	e ID <u>N/A</u>				Depth to	Water (w/ T	ubing in W	ell) <u>8.05</u>		 		
						ı	PURGING					
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA Reading			
Time	Rate ¹ (L/min)	Oxygen (mg/L)	pН	Eh/ORP (mV)	Temp.	(μmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Depth to Water ² (ft)	Comments
1022	.4	0.72	6.54	406	233	48267	1.1	,2.			8.07	
1025	14	10.63	65%	381	2367	60570	OF	.4			8,09	
1028	.4	0.66	660	389	23.81	60380	015	.4			8.11	
1031	,4	0.63	661	393	24.18	59862	811	.8			8.13	
1035	Collect	Suup.	0									
		7										
					<u> </u>							
L	<u> </u>				_				ļ			
<u> </u>	<u> </u>	<u>L,</u>		<u> </u>	1	<u> </u>		<u> </u>		<u> </u>	<u> </u>	
-	nte = 0.2 - 0.5 L/m wn shall be <0.33											
SAMPL	E PARAMET	ERS										
2)	(SVOCs	1xD.ME	RC.						<u> </u>		<u></u>	
SAMPL				,		,			- 		т	
Notes:	.4	. 4		<u> </u>				<u> </u>	<u> </u>		<u> </u>	
Sample Sample	rate for VOCs an rate for non-VOC	s analysis = pu	rge rate :	= 0.2 - 0.5 L/	1							
		oder Free	٤,,	D. Mer	CUN !	was fie	ld fil	tered				
	QUIPMENT				7							
	er	HYDROLA	В		Serial I	Number#	R40797		Number of	f Bottles	2X1LA	
•	ature Meter _						R40797			_	X250mLP	
-	y Meter						R40797		4			
	lec. Cond. Me						R40797					
•		YDROLAB					R40797		Field Note	book_Pa	. 56	
		YDROLAB					R40797				· · · · · · · · · · · · · · · · · · ·	
	e Probe SC						25582		Sample M	ethod <u>Lo</u>	w Flow	
		NI-RAE					00320					
Pump_		EO-PUMP			Serial	Number	3A0041					
	nnaratus (SEO- 45 MIC	RON	•					Discharge	Water Co	ontainerized	X Yes No



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Data	12/13	MOA.	

Well Nan						Interval					r	i zi	
	CTO 86-Site				Station	Elevation	GND_	TOC Time <u>5.50/085</u>	Immiscible	Phases Pr	esent	Yes X No	
•	o. <u>1990.0</u> 8				Static V	/ater Level (fr	om TOC) /	Time 5.50/085	3,	50/ 687	5,5	0/0857	
	tion <u>Moffett</u>				Average	Water Level	(from TOC	5,50					
	Date <u>12-/</u>					ce PointT		<u></u>	PID Readings (background) $\frac{\mathcal{O}\rho\rho}{\mathcal{O}}\omega$				
Sampling	Personnel	D. HARRIS	ON_		Referen	ce Elevation			PID Readin	g (TOC) _	سمون	<u> </u>	
		M.RAMOS				levation			Notes				
					Well De	pth MEAS 🛂	11.30 F	RPTD	Feet of Wat	er			
Sample I	D <u>86-S1-079</u>)				f Bottom of T						 	
Duplicate	e ID <u>86-S1</u> -	-080			Depth to	Depth to Water (w/ Tubing in Well) 5.50							
			1			Ę	PURGING		r		1		
	Discharge	Dissolved				Specific Conduct.		Cumulative Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen	'	Eh/ORP		(µmhos/cm		Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
0431	.4	0.56	677			65.478		ر ک			5,51		
0834	,4	0.60	680			65455	0.0	. 4			5,53		
0837	.4	0.60	679			65520	0.0	,4			5,54		
0840	, 4	0.50	+	154	15,26	65465	00	.8			5.54		
0845	Collect		e	<u> </u>	ļ								
0855	Collect	field	DU	pli cofe									
			<u> </u>				<u> </u>						
			1										
-	te = 0.2 - 0.5 L/m m shall be <0.33												
SAMPLE	PARAMETI	ERS											
	VOC's	D.MEF	SC.	Γ		I		T				1	
SAMPLE				I							<u></u>		
	4	. 4		1				1	1				
2. Sample :	rate for VOCs and rate for non-VOC:	s analysis = pur	ge rate =	0.2 - 0.5 L/i		Μονείκγ	' u45 1	Field Filtere	Í.				
FIELD E	QUIPMENT												
pH Mete	r	HYDROLA	<u>B</u>		Serial I	Number <u>#</u>	R40797		Number of	Bottles	4x1LA		
Tempera	ture Meter	HYDROLA	λB		Serial I	Number#	R40797		•		2x250mLP		
•	Meter				Serial I	Number #	R40797						
-	ec. Cond. Me		-		Serial I	Number #	R40797						
-	eter H						R40797		Field Note	book P4	5,60+0	P	
		/DROLAB					R40797			J			
	Probe SO				Serial		25582		Sample M	ethod _Lov	w Flow		
	 _	NI-RAE					00320						
Pump _		EO-PUMP			Serial	NumberE	3A0041						
Filter Ap	paratus	EO45 MIC	RON						Discharge	Water Co	ontainerized	X Yes No	



Page	1 of	_1
Date _	12/13/04	

								· · · · · · · · · · · · · · · · · · ·				
Well Nan	ne <u>W1-8</u>				Screen	Interval	13-18					
	CTO 86-Site	1,						TOC	Immiscible	Phases Pr	esent	Yes X No
Project N	o. <u>1990.08</u>	36E			Static V	Vater Level (fr	om TOC) /	TOC Time <u> </u>	159 5.	56/09	00 5.5	5/0901
Well Loca	tion Moffett-	Site 1			Average	Water Level	(from TOC	5,55				
Sample [Date 12-	14-04							PID Readings (background) Opp w			
Sampling	Personnei_	D. HARRIS	ON						PID Readin	g (TOC)	Sppu	
		M.RAMOS				levation			Notes			
							2.68 F	RPTD				-
Sample i	D 86-S1-081				Depth o	f Bottom of T	ubing 15	.5				
Duplicate	e IDn/a				Depth to	Depth to Water (w/ Tubing in Well) 5,55						
		<u> </u>				· · · · · · · · · · · · · · · · · · ·	PURGING	····				
			,								[
						Specific		Cumulative				
	Discharge	Dissolved				Conduct.		Volume of Water	PID/OVA	Reading		
i l	Rate ¹	Oxygen	1	EN/ORP	Temp.	i	Turbidity	Removed/Purged			Depth to	
Time	(L/min)	(mg/L)	рН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments
0910	,4	050	699	192	1656	64852	6.4	,2			5,57	
09/3	14	0.26	699	180	16.64	64998	513	, 4			5.58	
3916	,4	0.20	6.99	173	1673	65064	4.2	,6			5.40	
09/9	·Ý	0.16	700	168	16.74	65158	3.4	, &			5.62	
0922	,4	0.14	7.00		16.63	65340	2,3	1.0			5.63	
9925	. 4	•										
0930	Collect	Sauple										
		,										
							,					
				jđ.	4.							
Notes:	e = 0.2 - 0.5 L/mi	nuta	•	•			,					
-	n shall be <0.33											
SAMPLE	PARAMETE	ERS										
	VOC's	D.MEF		T				l	Γ		[
SAMPLE			···	L	<u></u>	1		I	<u>.</u> ,		<u> </u>	
	4 4/m	,44	u	1	,,				<u> </u>			
Notes:	·	<u></u>		. 				<u> </u>			<u> </u>	
	rate for VOCs and rate for non-VOCs				minute							
		ì	ge 14te -	0.2 - 0,3 61	illiidas							
	of Well:		-15.7	4 110		- X	* 1	1	11.0	Z/		
Remarks	: gm Tou	BILLITY 15	Sligh	1 142	> 000	or. D.	NIELCUL	y was the	12/ 7/1	teval .		
FIELD E	QUIPMENT	,					,					
pH Meter	r	<u>HYDROLAI</u>	В		Serial 1	Number#	R40797		Number of	Bottles	2x1LA	
Tempera	ture Meter	HYDROLA	\B		Serial I	Number#	R40797				1x250mLP	J. J. L. J. J. J. J. J. J. J. J. J. J. J. J. J.
Turbidity	Meter	HYDRO	LAB		Serial i	Number #	R40797					
Spec. El	ec. Cond. Met	ter <u>HYDR</u>	OLAB		Serial I	Number #	R40797	······································				
ORP Me		DROLAB			Serial I	Number#	R40797	·	Field Notel	oook/	9.61	
D.O. Me	ter HY	DROLAB			Serial I	Number#	R40797			٩	٠ - ١	
Interface	Probe SO	LINST			Serial I	Number #	25582		Sample Me	ethod <u>Lov</u>	v Flow_	-
PID/OV	4MII	NI-RAE					00320					
Pump	GE	O-PUMP					8A0041		*****			
Either An	paratue G	EO 45 MIC	PON						Discharge	Water Co	ntainerized	X Yes No



Page	1 of _	_1
Date_	12/13/04	_

Well Nam	ne <u>W1-12</u>	R			Screen	Interval	15-25						
Project_	CTO 86-Site	1,						TOC	Immiscible I	Phases Pr	esent	Yes X No	
	o. <u>1990.0</u> 8				Static V	/ater Level (fr	om TOC) /	Time 2-75/09	50 2.	15/099	7 275	5/0952	
_	tion Moffett-	·			Average	Water Level	(from TOC	2.75		,		7	
	Date 12-									PID Readings (background) Oppur PID Reading (TOC) Oppur			
	Personnel		ON		Reference Elevation					a (TOC)	ODOWTH		
.		M.RAMOS			Static Elevation					3 (· / <u></u>	17	· · · · · · · · · · · · · · · · · · ·	
					Well De	oth MEAS 2	5.65 E						
Sample I	D 86-S1-076	3				f Bottom of T			1 000 01 1100	···	······································		
	e ID <u>86-S1-</u>			_				ell) 2.75					
Барлоак	· ID	<u> </u>			- Depart			OII) <u>(S. L. J</u>					
	, ·	,	,			<u> </u>	URGING						
	Discharge Rate ¹	Dissolved Oxygen		Eh/ORP	Temp.	Specific Conduct. (µmhos/cm	Turbidity	Cumulative Volume of Water Removed/Purged	PID/OVA	Reading	Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	" at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1440	,4	0.76	651	345	2341	56397	29	,2			2.16		
1443	,4	0.30	682		23.21	56763	50	.4		***************************************	2.77		
1446	.4	0.28	6.85	357	1309	56759	60	.6			2.78		
1449	.4	024	682		2207		34	.8			2.78		
1452		0.23		355		57934	32	1.0			2.78		
1455	ij	1.23		349		57872	32	1.2			2.75		
1458	.4	027	684	348		58308	33	1.4			2.78		
1500	Collect	Somple	-	1	1								
1000	G/ELI	Sawyije			1								
				 	 								
			†	<u> </u>									
-	te = 0.2 - 0.5 L/m vn shali be <0.33				· I		<u></u>		<u> </u>		<u> </u>		
SAMPLE	E PARAMETI	ERS											
S	VOCs	D.ME	₹८										
SAMPLE	RATE												
	4	.4											
2. Sample Condition	rate for VOCs and rate for non-VOC on of Well:	s analysis = pui	ge rate =	= 0.2 - 0.5 L/ı	<u> </u>	5 H2S 0	dor.	D. Merc. wa	s Field	Filteri	ed		
FIELD E	QUIPMENT										4×1LA		
pH Mete		HYDROLA	В		Serial I	Number#	R40797		Number of	Bottles _	6XHA	······································	
•	Temperature Meter HYDROLAB					Number #	R40797			2	2x250mLP		
•	Meter	HYDRO				**	R40797						
-							R40797						
Spec. Elec. Cond. Meter <u>HYDROLAB</u> ORP Meter <u>HYDROLAB</u>							R40797		Field Note	book <u>Pa</u>	s 58+	59	
D.O. Meter HYDROLAB							R40797				,		
Interface Probe SOLINST							25582		Sample M	ethod _Lov	w Flow		
PID/OVA MINI-RAE							00320						
Pump		EO-PUMP					3A0041	-					
. –		SEO45 MIC	RON						Discharge	Water Co	ntainerized	X Yes No	



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Date	12/13/04

Well Nan	ne <u>W1-14</u>	<u> </u>			Screen	Interval	4 1-14	11					
	CTO 86-Site	1,									7v 171v-		
-	o. <u>1990,0</u>							Time <u>5.55/09</u>				Yes No	
	ation Moffett				Average	Water Level	/from TOC	\ ₹ .	42 3.	25/044	2 3,5	5/0943	
	Date 12		7						PID Readings (background) Dpin PID Reading (TOC) Opp u				
	Personnel _				Reference Point TOC				PID Readin	igs (backg	rouna) U		
		M.RAMOS	<u></u>		Reference ElevationStatic Elevation				PID Readir	ig (10C) _	oppu	<u> </u>	
		IN.I VAIVIOO							Notes		- ' '		
Sample I	D 86-S1-07		<u> </u>					RPTD	Feet of Wa	ter			
_		<u>, </u>				of Bottom of T							
Dupitcati	e ID <u>N/A</u>				Depth to	o Water (w/ T	ubing in W	(ell) <u>5.55</u>					
			1]	PURGING						
	Diocharas	.		1		Specific		Cumulative	DID (0) (1				
	Discharge Rate ¹	Dissolved			Tomo	Conduct.	 	Volume of Water	PID/OVA	Reading			
Time	Rate (L/min)	Oxygen (mg/L)	- Lu	Eh/ORP (mV)	(°C)	(µmhos/cm		Removed/Purged			Depth to		
	.4		pH Con			at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1375		0.77	6.90	363		52878	27	.2			5.58		
1338 1341	. 4		6.89	2/1		56968	26	. 4			5,60		
1371	- 14	0.33	689	127	25.05	53496	13	.6			5.62		
1344		0.25	689	81	<i>15.71</i>	33559	6.3	.8			5.61		
1347	.4	0.19	686			55016	1.6	1.0			5.63		
1350	. 4	0:16	684	106		55918	4.8	1.2			5.49		
1353	.4		6 GU	1/4		55406	3.7	1.4			5.64		
1356	, 4		6.54	116	26.45	55 397	3.1	1.6			5.45		
1358	Collect	Source											
		U			<u> </u>								
<u> </u>			<u> </u>		<u> </u>								
-	e = 0.2 - 0.5 L/mi n shall be <0.33												
SAMPLE	PARAMETE	RS											
	/OCs	D.MER	C						· · · · · · · · · · · · · · · · · · ·				
SAMPLE		D.MEI	<u> </u>			<u> </u>			<u> </u>				
	4 L/m	646	Iua.	†					<u> </u>				
Notes:	1 D/M	6 1 -	101	<u> </u>		L			<u> </u>				
	ate for VOCs and												
	ate for non-VOCs	1	ge rate =	0.2 - 0.5 L/n	ninute								
	of Well: 🔓												
Remarks	Slight b	roun tur	bidi	H/Od	or fre	e. D.	Mercus	y was field	d filte	ved			
FIELD E	QUIPMENT			•				•					
pH Meter		HYDROLAE	3		Serial N	lumber #F	R40797		Number of	Rottles	2X1LA		
	ure Meter_	HYDROLA			Serial N		R40797		TTGTTISCT OF		X250mLP		
Turbidity		HYDROI			Serial N		R40797	······································			AZJOIILF		
•	c. Cond. Met				Serial N		R40797						
			<u></u>	······	Serial N		140797 R40797		Field Notes	nok Pa	57+58		
D.O. Meter HYDROLAB							R40797		LICIU NOIGE	17.	21138		
	Probe <u>SOI</u>								Comple Ma	thad leve	Flow		
PID/OVA		II-RAE					25582		Sample Method <u>Low Flow</u>				
Pump		O-PUMP			Serial N		00320	······································					
Filter App			BON.		Oction i	lumber <u>B</u>	A0041		Disalt	M-4 0	Amin anic asi	√√	
I WELVE	rai alus <u>U</u>	EO45 MIC	NUN						Discharge '	vvater Con	itainerized i	X Yes No	



Page	_1	of_	_1_	_
Data	40/40/	0 4		

Well Nar	ne <u>W1-15</u>	<u> </u>			Screen Interval 4.4-14.4								
Project _	CTO 86-Site	1.			Station Elevation GND TOC Immiscible Phases Present Yes X No.								
Project N	lo. <u>1990.0</u>	86E			Static V	Vater Level (f	rom TOC)	Time 5, 75/09/	18 5,	75/19	19 5.75	70070	
	ation <u>Moffett</u>				Average	e Water Level	(from TO	5.75		7	<u> </u>	10,20	
Sample	Date 12 1	5 04			Reference Point TOC				PID Readings (background)				
Sampling	Personnei _	D. HARRIS	ON						PID Readir	ig (TOC)	Danie	100-1	
		M.RAMOS			Static Elevation				Notes	.9 (. 00)_	77	·	
-					Well De	epth MEAS /	7.75	RPTD					
Sample	D 86-S1-07	2				of Bottom of T					· · · · · · · · · · · · · · · · · · ·		
Duplicat	e ID <u>collect</u>	ms/msd			-			ell) 5,75					
							PURGING	, 					
				T							1		
						Specific		October de Africa					
	Discharge	Dissolved				Conduct.		Cumulative Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP	Temp.		Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Galions)	Location	Value	Water ² (ft)	Comments	
1053	.4	0.62	6.61	130	23.39	62077	0.3	,2			5,11		
1056	. 4	059	667	129	2201	623/5	1.0	.4			5.80		
1059	.4	058	667	130	21,79	62542	8.01	16			5.81		
1/92.	.4	0.56	671	131	2163	63333	0.0	.8			5.82		
1/AS	,4	0.47	610	132	21.67	63222	0.0	1.0			5,83		
1108	,4	0.74	632	133	2168	63 103	0,0	1.2			5.84		
1111	.4	0,38		135	21.71	62679	0.0	1.4			5.85		
1105 1108 1111 1115	Collect	Sample		1.22	7.7.1	O,FOI	0.0		 		5,05		
	0.07,0.07	7											
				l —									
Notes:		·			•		L		l				
-	e = 0.2 - 0.5 L/mi n shall be <0.33												
	_												
	PARAMETE			Υ		T			T				
	VOCs	D.MER	C.	<u> </u>									
SAMPLE	RATE								·				
Notes:	7	4		<u> </u>					<u> </u>				
1. Sample r	ate for VOCs ana												
2. Sample n	ate for non-VOCs	analysis = pur	ge rate =	0.2 - 0.5 L/n	ninute								
Condition	غے of Well:	tod.						-1.					
Remarks	: <u>Clear</u> fo	odistace	<u>, 1</u>)	. Merc	· was	s field	tilterec	<i>t</i>					
FIELD F	QUIPMENT												
pH Meter		HYDROLAE	,		Serial N	lumahar 44T	240707		A1	D - 441	0)/41.4		
	ture Meter	HYDROLA					240797		Number of		6X1LA		
	Meter				Serial N	—	R40797		 		3X250mLP		
•		HYDROI			Serial N		R40797			 			
•	Spec. Elec. Cond. Meter HYDROLAB						R40797		Cial At 1 1	and Ann			
ORP Meter HYDROLAB					Serial N		R40797		rieia Noteb	OOK 192	. 56+5		
	D.O. Meter <u>HYDROLAB</u> Interface Probe <u>SOLINST</u>						R40797		Comple 14:				
PID/OVA		II-RAE					25582 20330		Sample Method <u>Low Flow</u>				
Pump		O-PUMP			Serial N	—	00320						
	paratus G		PON.		Serial N		A0041		Diochara	Mata: O:	tainania d	√ / / - □	
. wo ~ ~ P	<u></u> - <u></u>	_U-,-U 1411U	IVOIA						Discharge '	vvaler Cor	italnerized	X Yes No	



Page	1_	_ of _	_1
D-4-	404	0/0.4	

											Date _12/13/	04	
Well Nar	ne W1-10	3			Screen	Interval	5.4_15	5.4					
	CTO 86-Site	e 1.						TOC		D6 D		T. 17	
	lo. 1990.0							Time 7.10 ~ 0	Immiscible	Phases Pi	resent	Yes No	
	ation Moffet				Average	a Water Level (1	(from TOC)	7.70	701 7.	10-07	<u> </u>	3-0909	
	Date 12-				Average Water Level (from TOC) 7.60 Reference Point TOC PID Readings (background)							• 4	
	Personnel		ON									pu_	
	-	M.RAMOS			Reference Elevation						Oppin		
		<u>,</u>					18.71	RPTD	Notes				
Sample I	D 86-S1-08	3							reet of vva	ter			
•	e ID N/A				Depth of Bottom of Tubing 10.4 Depth to Water (w/ Tubing in Well) 7-10								
					Вериге	o trate: (til) i	dbiig iii vv	ell)					
		T		ı		<u> </u>	PURGING						
	Discharge Rate ¹	Dissolved		Eh/ORP	Temn	Specific Conduct. (µmhos/cm	T	Cumulative Volume of Water	PID/OVA	Reading			
Time	(L/min)	Oxygen (mg/L)	рH	(mV)	(°C)	at °C)	Turbidity (NTU)	Removed/Purged	Lanation	Makes	Depth to		
10/9	4	0.40	6.71	1/6	18.13	66602	8.5	(Gallons)	Location	Value	Water ² (ft)	Comments	
1022	:4	0.14	175	98	1919	67065	0.0	.4			7.12		
1025	- J	0.08	6.74	68	1824	68045	0.0				7.16		
1028	d	0.09	673		1838	6880H	0.0	. 6			7.17	·	
1031	.4	0105	6.F1			69649	0.0				7.18		
1034	.4	0.06		136		69723	0.0	<u>/· 0</u> /· 2			7.20		
1035	Callest			129	78,37	61122	Q.()				7.22		
7-25	- CO /II CO/I	Sample			 								
					 								
					<u> </u>								
		 	<u> </u>	<u> </u>	<u> </u>								
	e = 0.2 - 0.5 L/mi n shall be <0.33		<u>. </u>		I						<u>l</u>		
SAMPLE	PARAMETE	ERS											
S\	/OC's	D.MER	C.										
SAMPLE	RATE												
	44/01	,44	aj										
2. Sample ra	ate for VOCs and ate for non-VOCs	analysis = purg	je rate =	0.2 - 0.5 L/m									
Remarks:	clear /	Slight 1	425	odov,	<u> </u>	Dercury	was fr	eld filteract					
FIELD E	QUIPMENT	,				/		ŕ				-	
pH Meter		HYDROLAB	t		Serial N	lumher #F	R40797		Number of	Dettles	OVALA		
	ure Meter	HYDROLA			Serial N		R40797		Number of	bottles	2X1IA		
Turbidity		HYDROL			Serial N						1X250mLP		
•	c. Cond. Met				Serial N		R40797 R40797			~~			
ORP Met		DROLAB			Serial N		(40797 R40797		Field Metel	ook De-	.62+6		
D.O. Met	***************************************	DROLAB			Serial N		340797 340797		Field Noteb	ook_Pas	, 92.6		
Interface		INST			Serial N		25582		Sample Ma	thad I am	Flow		
PID/OVA		II-RAE	* ***		Serial N		0320		Sample Me	u lou <u>Low</u>	FIOW		
Pump		O-PUMP		-	Serial N		40041						
Filter App		EO45 MICI	RON		- Sindi IV		,00 TI		Discharge Water Containerized X Yes No.				



Page	1of_	_1
Data	10/13/04	

								i					
Well Nan	ne <u>W1-19</u>					Interval					_		
Project _	CTO 86-Site	1.			Station Elevation GND TOC Immiscible Phases Present Yes X No								
Project N	o. <u>1990.0</u>	86E			Static Water Level (from TOC) / Time 5.15/0136 5.15/0137 5.15/0138								
	ation <u>Moffett</u>		<u> </u>		Average Water Level (from TOC) 5.15							<u> </u>	
Sample I	Date 12-	3-04			Reference Point TOC				PID Readin	gs (backg	round) <u>DAA</u>	h	
Sampling	Personnel	D. HARRIS	ON		Referen	ce Elevation		· · · · · · · · · · · · · · · · · · ·	PID Readin	g (TOC) _	oppoul		
		M.RAMOS		 	Static Elevation				Notes		- 11		
								RPTD	Feet of Wat	ter			
Sample i	D 86-S1-07	3			Depth o	f Bottom of T	ubing <u>16</u>	.5					
Duplicat	e ID <u>N/A</u>				Depth to	o Water (w/ T	ubing in W	ell) <u>5.15</u>					
					•	1	PURGING				··········		
						Specific		Cumulative					
	Discharge	Dissolved	1			Conduct.		Volume of Water	PID/OVA	Reading			
İ	Rate ¹	Oxygen	1	Eh/ORP		(µmhos/cm		Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
1297	.4	0,51	688		25/7	57288	7.7	12			5.16		
1300	.4	0,45	6.81	233		58346	6.9	.4			5.18		
1303	,4	0.40	6,90	677		58812	2.8	, 4			5.19		
1306	.4	0.34	681	170		59161	Ord	.8			5,20		
1309	,4	0.36	6.30	170	23.92	59352	0.2	1.0	<u> </u>		5.21		
1310	Collect	Sample											
		7							<u> </u>				
			<u> </u>										
				<u>.</u>									
			<u> </u>		<u> </u>				<u> </u>				
L		1	<u> </u>	<u> </u>	<u> </u>	L	<u> </u>		<u> </u>				
Notes: 1. Purge rat	te = 0.2 - 0.5 L/m	inute											
2. Drawdov	vn shall be <0.33	foot											
SAMPLE	PARAMETI	ERS											
S	VOCs	D.MEF	RC.	l		<u> </u>			<u> </u>				
SAMPLI	RATE										.,		
	4 4m	, 4 L	Im										
Notes:	rate for VOCs and	alveie = 0.1 0°	2 L/minut	ta .									
•	rate for non-VOC	•			ninute								
Condition	n of Well: <u>G</u>	har											
Pamarke	: clear	odor fro	e,	D. Me	versy	was fre	W filt	erec			······································		
	•	Out 110		400 1110	300.	gott j tij	- N	<u> </u>					
	QUIPMENT												
pH Mete		<u>HYDROLA</u>					R40797		Number of	-	_2X1LA		
•	ature Meter _						R40797				1x250mLP		
-	Meter	HYDRO					R40797			· · · · · · -			
•	ec. Cond. Me		OLAB				R40797				100 000		
ORP Meter <u>HYDROLAB</u>							R40797		Field Note	DOOK 19	.51		
D.O. Meter <u>HYDROLAB</u>					Serial Number #R40797								
Interface		LINST					25582		Sample M	ethod <u>Lo</u>	w Flow	· · · · · · · · · · · · · · · · · · ·	
PID/OV		NI-RAE					00320						
Pump _		EO-PUMP			Serial	Number	3A0041						
Filter Ap	paratus G	SEO45 MIC	RON						Discharge	Water Co	ntainerized	X Yes No	



Page 1_of	_1_
Date _12/13/0-	4

Well Nam	ne <u>W1-22</u>				Screen	Screen IntervalN/A							
Project	CTO 86-Site	1.			Station Elevation GND TOC Immiscible Phases Present Yes No								
Project No	o. <u>1990.0</u>	86E			Static Water Level (from TOC) / Time 3.80/0954 3.60/0955 3.80/0956								
Well Loca	tion Moffett	- Site 1			Average	Water Level	(from TOC	3.80		/			
Sample [)ate <u>) </u>	14-04			Reference Point <u>TOC</u>				PID Readings (background)				
Sampling	Personnel _	D. HARRIS	ON		Referen	ce Elevation			PID Readin				
		M.RAMOS			Static E	levation			Notes		77		
					Well De	pth MEAS <u>(</u>	. <i>15</i> F	RPTD	Feet of Wat	er			
Sample I	D <u>86-S1-07</u>	8]	Depth o	f Bottom of T	ubing <u>6</u>	iD					
Duplicate	ID <u>N/A</u>		··········		Depth to	Water (w/ T	ubing in W	ell) <u>3,80</u>					
							PURGING						
		[
						Specific		Cumulative					
	Discharge	Dissolved	ĺ	,		Conduct.		Volume of Water	PID/OVA	Reading			
	Rate ¹	Oxygen		Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
0755	. 4	0.87	686	161	1484	44347	28	12			3,82		
0758 0801	. 4	0.40	6.95	162	15.10	43995	23	.4			3.85		
0801	. 4	0.31	685	163	15.30	43803	16	14			3,87		
0809	.4	0.22	694	164	1532	43812	12	18			3,88		
0807	,4	0,21	684	164	15,36	43822	819	1.0			3,91		
0807 0810	.4	0121	6.84	165	15.44	43750	7.2	1.2			3.93		
0812	Gllect	Sample	?			.,,							
								88.0					
						,							
			<u> </u>	<u> </u>	<u>L</u>		<u> </u>						
_	e = 0.2 - 0.5 L/mi n shall be <0.33												
SAMDI F	PARAMETI	=DQ											
	VOC's	1xD.ME	BC.			I		<u> </u>	1		T		
SAMPLE		I IXD, IVIE	 	L	·· ·····	<u> </u>			<u> </u>	····	<u> </u>		
	 	.44	4.			f		<u> </u>			T	T	
Notes:	44/M	1 -9 -9	<u>~</u>	<u> </u>		L		<u> </u>	<u> </u>				
•	ate for VOCs and ate for non-VOCs	•			minute								
Condition	of Well: _C	sted				ž.					<u>.</u>		
Remarks	- DK Bri	. Turbid	چراک /	LAT Ha	Sode	r. D.	Meucu	ry was fro	eld fil	terred.			
FIELD E	QUIPMENT	,						/					
pH Meter		HYDROLAI	3		Serial I	lumber #	R40797		Number of	Bottles	2x1LA		
•	ture Meter	-				 -	R40797			_	1x250mLP		
•	Meter						R40797						
•							R40797			······································			
-	Spec. Elec. Cond. Meter <u>HYDROLAB</u> ORP Meter <u>HYDROLAB</u>					·	R40797		Field Notel	ook PG	160	· · · · · · · · · · · · · · · · · · ·	
D.O. Mel		/DROLAB					R40797			1			
	Interface Probe SOLINST						25582		Sample Me	thod Lov	v Flow		
PID/OVA	 -	NI-RAE					00320						
Pump GEO-PUMP							A0041						
	paratusG		RON						Discharge	Water Co	ntainerized	X Yes No	



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Date	12/13/04

							· · · · · · · · · · · · · · · · · · ·	<u> </u>					
Well Nar	ne <u>W1-23</u>				Screen	Interval	n/a					-	
Project _	CTO 86-Site	1,										Yes V No	
Project No. <u>1990.086E</u>					Station Elevation GND TOC Immiscible Phases Present Yes No Static Water Level (from TOC) / Time 5.75/0945 5.75/0946 5.75/0947 Average Water Level (from TOC) 7.75								
Well Loc	ation <u>Moffett</u>	- Site 1			Average	Water Level	(from TOC	2.75	<u></u>	.5/		2/0/17/	
Sample Date NA					_		•				round) DAP		
<u> </u>			ON		Referen	ce Flevation			PID Readir	igs (backy	Nan Opp	<u>u</u>	
Sampling Personnel <u>D. HARRISON</u> M.RAMOS									Notes	ig (100)_	Stor		
Sample ID 86-S1-074 Duplicate ID N/A						levation		RPTD <u>6.0</u>	Notes Feet of Water				
						f Bottom of T			reet of vva	ter			
Dapilout					Depth to Water (w/ Tubing in Well) <u>\$,15</u>								
						ı	PURGING						
	Discharge Dissolved			EL (ODD		Specific Conduct.		Cumulative Volume of Water	PID/OVA Reading				
Time	Rate ¹ (L/min)	Oxygen (mg/L)	pН	Eh/ORP (mV)	Temp.	(µmhos/cm at °C)	Turbidity (NTU)	Removed/Purged (Gallons)	Location	Value	Depth to Water ² (ft)	Comments	
1120	٤3	1.96	722	334		84779		.1		<u> </u>	5.80		
1423	,3	1.18				84972		.2			5,85		
1924	Trench	ran	dry		1	W. 1. 1. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2. 2.	1000				2,03		
			,					·····					
									<u> </u>				
										 			
			-										
	1	 	ļ	<u> </u>									
ļ <u>.</u>				 	1					ļ			
			 	<u> </u>					ļ				
Notes:		<u> </u>	L	ł	L								
	te = 0.2 - 0.5 l./mi vn shall be <0.33												
SAMPLE	E PARAMETE	RS											
	vOCs	D.MER	C					· · · · · · · · · · · · · · · · · · ·	I		<u> </u>		
SAMPLE				L	·			<u>L</u>	L,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		<u> </u>		
<u> </u>	- 10115	T		1				<u> </u>			I		
2. Sample of Condition	rate for VOCs and rate for non-VOCs	analysis = pur	ge rate =	0.2 - 0.5 L/n						u ai			
Remarks	: Brown	-turned	لماما	ier/s	nght	Mas od	or . D	- Wiercery to	45 +1E	10-1 ili	Wal		
	QUIPMENT							,					
pH Meter	r	HYDROLAE	3		Serial N	lumber <u>#</u>	R40797		Number of	Bottles	2X1LA	····	
Temperature Meter <u>HYDROLAB</u>					Serial Number #R40797				1X250mLP				
Turbidity	Meter	HYDRO	LAB		Serial N	lumber <u>#</u> l	R40797			:			
Spec. Elec. Cond. Meter HYDROLAB					Serial Number #R40797								
ORP Meter <u>HYDROLAB</u>					Serial Number #R40797				Field Notebook 19.58				
D.O. Meter <u>HYDROLAB</u>					Serial Number #R40797								
Interface Probe SOLINST					Serial Number #25582				Sample Method Low Flow				
PID/OVA MINI-RAE					Serial Number #00320								
Pump	GE	O-PUMP			Serial N	lumberB	A0041						
Filter Ap	paratus <u>G</u>	EO45 MIC	RON						Discharge	Water Cor	ntainerized	X Yes No	



TETRATECH FW.INC. LOW-FLOW GROUNDWATER SAMPLING DATA SHEET

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Dete	40/40/04

													
Well Nan	ne <u>W1-24</u>				Screen	Interval	6-16						
ProjectCTO 86-Site 1.					Screen Interval 6-16 Station Elevation GND TOC Immiscible Phases Present Yes No								
Project No. <u>1990.086E</u>					Static Water Level (from TOC) / Time 7.11/0903 7.10/0904 7.10/0909								
Well Loca	ation <u>Moffett</u>	- Site 1				e Water Level			<u></u>		7.70		
Sample Date 12-14-04									PID Readings (background) DPDA				
Sampling Personnel D. HARRISON											Ø ppa	<i>P</i>	
M.RAMOS						levation							
						epth MEAS	10.25 F	RPTD	Notes Feet of Water				
Sample ID <u>86-S1-082</u>						of Bottom of T							
Duplicate ID <u>N/A</u>						o Water (w/ T	ubing in W	'eli) _ <i>'7-10</i>					
Γ							PURGING						
											[
	;					Specific		Cumulativa					
	Discharge	Dissolved			Specific Cumulative Conduct. Volume of Wa				PID/OVA	Reading			
	Rate ¹	Oxygen	ļ	Eh/ORP	Temp.	(µmhos/cm	Turbidity	Removed/Purged			Depth to		
Time	(L/min)	(mg/L)	pН	(mV)	(°C)	at °C)	(NTU)	(Gallons)	Location	Value	Water ² (ft)	Comments	
0945	.4	0.40	6.90	149	15,99	60989	2.0	٦٠			7.11		
0948	.4	0.22	694	143	16.05	61 180	1.8	.4			7.12		
0951	, 4	0113	694	152	1621	61625	113	. 6			7.13		
0954	. 4	0.09	6.92	156	1645	62172	012	ر لا			7.15		
0957	.4	0109	6.90	155	1659	62417	011	1.3			7.16		
1000	, 4												
1005	Collect	Sample											
		/											
<u> </u>			<u> </u>	<u> </u>									
Notes: 1. Purge rat	e = 0.2 - 0.5 L/mi	nute											
_	n shall be <0.33												
SAMPLE	PARAMETE	ERS											
SVOC's D.MERC.						T T						T	
SAMPLE RATE						*			1 <u></u>		1		
	4 4/4	,44	4				- ' 						
Notes:	7		1 /						* 		L		
` .	ate for VOCs and ate for non-VOCs	-			ninute								
	_	rocd.											
	:_Slight		1	Slight	U1 <	where h	Marc	. was Field	41/10/	-			
	J		iic /	~ iijvii	1100	<u> </u>	1. 1. 1. 1.	· was now	i ii jie i			·····	
FIELD E	QUIPMENT												
pH Meter <u>HYDROLAB</u> Serial Number <u>#R40797</u> Number of Bottles <u>2x1LA</u>													
Tempera	ture Meter	HYDROLA			Serial Number #R40797				2x250mLP				
Turbidity Meter HYDROLAB Serial Number #R40797													
Spec. Elec. Cond. Meter <u>HYDROLAB</u>					Serial Number #R40797								
ORP Meter <u>HYDROLAB</u>					Serial Number #R40797				Field Notebook 12.				
D.O. Meter <u>HYDROLAB</u>					Serial Number #R40797				_				
Interface Probe <u>SOLINST</u>					Serial Number #25582				Sample Method <u>Low Flow</u>				
PID/OVA MINI-RAE					Serial Number #00320								
Pump		O-PUMP	DO::		Serial i	NumberB	A0041	Discharge Water Containerized X Ves N					
Filter An	naratus 🔼	FO- 45 MIC	PC() [/]						I Necharas	Water Car	י אפליושתובות	XIVACI INA	

APPENDIX B

ANALYTICAL SUMMARY TABLES AND CCL EVALUATION TABLES

LIST OF APPENDIX B TABLES

Regularly Scheduled Sampling

Table B-1	March 2004 Validated Analytical Results, Site 1 Landfill
Table B-2	May 2004 Validated Analytical Results, Site 1 Landfill
Table B-3	November 2004 Validated Analytical Results, Site 1 Landfill

Supplemental Sampling

Table B-4	July 2004 Analytical Results for Dissolved Mercury and Semivolatile Organic Compounds, Site 1
Table B-5	August 2004 Analytical Results for Dissolved Mercury and Semivolatile Organic Compounds, Site 1
Table B-6	September 2004 Analytical Results for Dissolved Mercury and Semivolatile Organic Compounds, Site 1
Table B-7	December 2004 Analytical Results for Dissolved Mercury and Semivolatile

Statistical Evaluation

Table B-8	Summary – Dissolved Metals
Table B-9	Summary – VOCs

Organic Compounds, Site 1

Table B-10 Summary – SVOCs

REGULARLY SCHEDULED SAMPLING

	71-S1-017	71-S1-018	71-S1-019	71-S1-020	71-S1-022	71-S1-023	71-S1-024	71-S1-025	71-S1-026	71-S1-027	71-S1-028	71-S1-029
COC	W1-1	W1-15	W1-19	W1-19 (DUP)	W1-14	W1-12R	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/31/04	3/31/04
Total Metals (µg/L)												
Aluminum	4,000 U	4,000 U	1,230 J	4,000 U	4,000 U	4,000 U	1,320 J	2,610 J	4,000 U	4,000 U	4,000 U	4,000 U
Antimony	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U
Arsenic	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Barium	69.6 J	148 J	81 J	74.8 J	160 J	80.8 J	311	491	117 J	111 J	208	359
Beryllium	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Cadmium	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Chromium	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Cobalt	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Copper	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Lead	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Mercury	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Nickel	400 U	400 U	400 U	400 U	400 U	206 J	400 U	400 U	400 U	400 U	400 U	400 U
Selenium	52.3 J	52.3 J	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Silver	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Thallium	100 U	100 U	100 U	100 U	100 U	100 U	62.9 J	100 U	100 U	100 U	56.6 J	100 U
Vanadium	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Zinc	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Dissolved Metals (µ g/L)												
Aluminum	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U	4,000 U ^b	4,000 U ^b	4,000 U ^b	3,800 J
Antimony	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U	2,000 U
Arsenic	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Barium	66.6 J	157 J	81.8 J	83.4 J	145 J	75.8 J	313	485	121 J	164 J	246	384
Beryllium	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Cadmium	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Chromium	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	107 J	400 U	400 U
Cobalt	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Copper	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Lead	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Mercury	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U	500 U
Nickel	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Selenium	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Silver	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U
Thallium	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U	100 U
Vanadium	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U	200 U
Zinc	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	400 U	102 J	400 U	400 U

COC	71-S1-017 W1-1	71-S1-018 W1-15	71-S1-019 W1-19	71-S1-020 W1-19 (DUP)	71-S1-022 W1-14	71-S1-023 W1-12R	71-S1-024 W1-22 ^a	71-S1-025 W1-5	71-S1-026 W1-8	71-S1-027 W1-8 (DUP)	71-S1-028 W1-24	71-S1-029 W1-16
COC	3/29/04	W1-15 3/29/04	3/30/04	3/30/04	3/30/04	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/31/04	3/31/04
VOCs (µg/L)												
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 UJ	2 UJ	2 U	2 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	10 UJ	10 UJ	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U	10 U	6 J	10 UJ	10 UJ	10 UJ	10 U	10 U
Benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Bromoform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U
Carbon disulfide	0.5 UJ	0.21 J	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Chloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U

	71-S1-017	71-S1-018	71-S1-019	71-S1-020	71-S1-022	71-S1-023	71-S1-024	71-S1-025	71-S1-026	71-S1-027	71-S1-028	71-S1-029
COC	W1-1	W1-15	W1-19	W1-19 (DUP)	W1-14	W1-12R	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/31/04	3/31/04
cis-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Isopropylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
m,p-Xylene	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U
Methylene chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 UJ	2 UJ	2 UJ	2 U	2 U
Naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
p-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 UJ	1 UJ	1 U	1 U
PCBs (µg/L)												
Aroclor-1016	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	1 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	1 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1232	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	1 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	2 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1248	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	1 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	1 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	1 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Pesticides (μg/L)												
4,4'-DDD	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 UJ	0.1 UJ	0.039 J	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ
4,4'-DDE	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
4,4'-DDT	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 UJ	0.1 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ
Aldrin	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.033 J	0.047 U	0.047 U	0.047 U	0.047 U	0.018 J

	71-S1-017	71-S1-018	71-S1-019	71-S1-020	71-S1-022	71-S1-023	71-S1-024	71-S1-025	71-S1-026	71-S1-027	71-S1-028	71-S1-029
COC	W1-1	W1-15	W1-19	W1-19 (DUP)	W1-14	W1-12R	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/29/04	3/29/04	3/30/04	3/30/04	3/30/04	3/31/04	3/31/04
alpha-Chlordane	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.029 J	0.047 U	0.047 U	0.047 U	0.047 J
delta-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 UJ	0.05 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.03 J
Dieldrin	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.1 U	0.05 J	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endosulfan I	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endosulfan sulfate	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin aldehyde	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.1 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin ketone	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 UJ	0.1 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ
gamma-BHC (Lindane)	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	0.047 UJ	0.047 UJ	0.013 J	0.047 U	0.047 UJ	0.05 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ	0.047 UJ
Heptachlor epoxide	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.05 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	0.47 UJ	0.47 UJ	0.47 UJ	0.47 U	0.47 UJ	0.5 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ
Toxaphene	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	3 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
General Chemistry (mg/L)												
Nitrate as Nitrogen	0.14	0.1 U	0.1 U	0.1 U	0.118	1.11	0.527	1.68	2.95	2.99	0.215	0.1 U
TOC	6.07	12.90	9.41	9.00	11.80	6.48	95.30	11.30	10.00	10.00	22.00	18.00

Notes:

Metals analysis was conducted using Environmental Protection Agency (EPA) Test Method 6010B. Per the *Final Technical Memorandum Site 1 Groundwater Evaluation Process*, issued on April 8, 2004, future dissolved metals sampling will be performed using EPA Test Method 200.8.

Abbreviations and Acronyms:

μg/L - micrograms per liter

mg/L - milligrams per liter

BHC - benzenehexachloride

COC - constitutent of concern

DDD - dichlorodiphenyldichloroethane

DDE – dichlorodiphenyltrichloroethylene

DDT – dichlorodiphenyltrichloroethane

 $DUP-duplicate\ sample$

J - estimated value

NAS - Naval Air Station

PCB – polychlorinated biphenyl

TOC - total organic carbon

U - analyte not detected above project reporting limit

UJ - analyte not detected above the estimated reporting limit

VOC - volatile organic compound

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1

b – Aluminum was detected but was not confirmed in the Trace-ICP run and lab contamination was suspected during dilution process. Therefore, the result was reported from the Trace-ICT re-run on 04/26/04. Shading indicates concentration above the calculated concentration limit.

	86-S1-001	86-S1-002	86-S1-003	86-S1-004	86-S1-006	86-S1-007	86-S1-008	86-S1-009	86-S1-010	86-S1-011	86-S1-012	86-S1-013
СОС	W1-1	W1-1 (DUP)	W1-15	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22 ^a	W1-5	W1-8	W1-24	W1-16
	5/24/04	5/24/04	5/24/04	5/25/04	5/25/04	5/25/04	5/25/04	5/26/04	5/26/04	5/26/04	5/26/04	5/26/04
Dissolved Metals (µg/L)	EPA Method	200.8 (unless oth	nerwise noted)									
Aluminum (EPA Method 6010B)	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U	50U
Antimony	1.02 U	0.9 U	0.98 U	2.2	0.9U	0.9U	0.93 U	0.65 U	2.09	1.86 U	2.14	2.25 J
Arsenic	0.63 J	0.6 J	5.17	3.04 J	5.35 J	4.92J	2.24 J	2.56 J	3.62 J	1.57 J	6.78 J	6.43 J
Barium	71.5	72J	181	86.6	152	155 J	78.2	357	524	130	214	229 J
Beryllium	0.007 U	0.006 U	0.016 J	0.009 U	0.01 U	0.011U	0.006 U	0.023 J	0.007 U	0.006 U	0.014 J	0.013 J
Cadmium	0.171	0.185 J	0.006 U	0.414	0.011 J	0.009U	0.066	0.006 U	0.012 J	0.134	0.006 U	0.054 J
Chromium	0.72	0.64J	1.76	0.37 J	0.56	0.54J	0.46	3.84	0.8	0.43	1.23	0.49 J
Cobalt	3.49 J	3.41J	2.65	8.24 J	7.16 J	7.69 J	5.67 J	0.956 J	3.09 J	0.882 J	4.65 J	5.61 J
Copper	0.51	0.5 J	0.22	1.56	0.14 J	0.11 J	0.17 J	0.38	0.08 J	0.26	0.19 J	0.13 J
Lead	0.023 J	0.02J	0.018 U	0.076	0.02 J	0.022J	0.018 U	0.018 U	0.018 U	0.018 U	0.024 J	0.247 J
Mercury (EPA Method 7470A)	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ
Nickel	19.4	19.6 J	6.06	13	9.47	9.72J	41	75.9	6.86	5.66	14.8	14.4 J
Selenium (EPA Method 7742)	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Silver	0.054	0.033J	0.011 J	0.02 J	0.016 J	0.033 J	0.038 J	0.01 U	0.01 U	0.034 J	0.016 J	0.239 J
Thallium	0.066	0.065J	0.001 U	0.067	0.006 U	0.006U	0.022 J	0.002 U	0.016 U	0.025 J	0.008 U	0.008 U
Vanadium (EPA Method 6010B)	11.8	6 U	6 U	6 U	9 J	6 U	6 U	6 U	10.2	6 U	6.8 J	6 U
Zinc	7020	8810 ^b	2.38 J	3.4 J	1.22 J	1.19J	41.3 J	26.3 J	0.87 J	3.74 J	1.17 J	0.46 J
VOCs (µg/L)	EPA Method	8260B										
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	2 U	2 U	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 UJ	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U

	86-S1-001	86-S1-002	86-S1-003	86-S1-004	86-S1-006	86-S1-007	86-S1-008	86-S1-009	86-S1-010	86-S1-011	86-S1-012	86-S1-013
COC	W1-1	W1-1 (DUP)	W1-15	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22	W1-5	W1-8	W1-24	W1-16
	5/24/04	5/24/04	5/24/04	5/25/04	5/25/04	5/25/04	5/25/04	5/26/04	5/26/04	5/26/04	5/26/04	5/26/04
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 U	10 U	10 U	10 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
4-Chlorotoluene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ
Acetone	10 U	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	2.9 J	10 U	10 U	2.8 J	10 U
Benzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
Carbon disulfide	0.5 U	0.5 U	0.24 J	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Chloroform	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ
cis-1,2-Dichloroethene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
Ethylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Isopropylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	2 U	2 U	2 UJ	2 UJ	2 UJ	2 UJ	2 U	2 UJ	2 U	2 U	2 U	2 U

	86-S1-001	86-S1-002	86-S1-003	86-S1-004	86-S1-006	86-S1-007	86-S1-008	86-S1-009	86-S1-010	86-S1-011	86-S1-012	86-S1-013
COC	W1-1	W1-1 (DUP)	W1-15	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22	W1-5	W1-8	W1-24	W1-16
	5/24/04	5/24/04	5/24/04	5/25/04	5/25/04	5/25/04	5/25/04	5/26/04	5/26/04	5/26/04	5/26/04	5/26/04
m,p-Xylene	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Naphthalene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
p-Isopropyltoluene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.54	0.71	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	0.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	1 U	1 U	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	1 U	1 U
Vinyl chloride	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U
PCBs (µg/L)	EPA Method	8082										
Aroclor-1016	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1232	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Pesticides (μg/L)	EPA Method	8081A										
4,4'-DDD	0.094 U	0.094 U	0.094 U	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 UJ	0.094 UJ	0.094 UJ
4,4'-DDE	0.094 U	0.094 U	0.094 U	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 UJ	0.094 UJ	0.094 UJ
4,4'-DDT	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Aldrin	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	0.047 U	0.047 U	0.061	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	0.047 U	0.047 U	0.38	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 UJ	0.047 U	0.047 U	0.047 U

	86-S1-001	86-S1-002	86-S1-003	86-S1-004	86-S1-006	86-S1-007	86-S1-008	86-S1-009	86-S1-010	86-S1-011	86-S1-012	86-S1-013
COC	W1-1	W1-1 (DUP)	W1-15	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22	W1-5	W1-8	W1-24	W1-16
	5/24/04	5/24/04	5/24/04	5/25/04	5/25/04	5/25/04	5/25/04	5/26/04	5/26/04	5/26/04	5/26/04	5/26/04
Dieldrin	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Endosulfan I	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endosulfan sulfate	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin aldehyde	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin ketone	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
gamma-BHC (Lindane)	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.053	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	0.47 U	0.47 U	0.47 U	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 UJ	0.47 U	0.47 UJ	0.47 UJ	0.47 UJ
Toxaphene	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
SVOCs (µg/L)	EPA Method	8270C										
1,1'-Biphenyl	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,4-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,6-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3/4-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4,6-Dinitro-2-methylphenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U

	86-S1-001	86-S1-002	86-S1-003	86-S1-004	86-S1-006	86-S1-007	86-S1-008	86-S1-009	86-S1-010	86-S1-011	86-S1-012	86-S1-013
COC	W1-1	W1-1 (DUP)	W1-15	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22	W1-5	W1-8	W1-24	W1-16
	5/24/04	5/24/04	5/24/04	5/25/04	5/25/04	5/25/04	5/25/04	5/26/04	5/26/04	5/26/04	5/26/04	5/26/04
4-Bromophenyl-phenylether	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl-phenylether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acetophenone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Atrazine	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Benzaldehyde	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	19 U	42	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Butylbenzylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Caprolactam	9.4 U	6.2 J	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Carbazole	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Butylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Octylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Dibenzofuran	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Diethylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dimethylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U

сос	86-S1-001 W1-1 5/24/04	86-S1-002 W1-1 (DUP) 5/24/04	86-S1-003 W1-15 5/24/04	86-S1-004 W1-19 5/25/04	86-S1-006 W1-14 5/25/04	86-S1-007 W1-14 (DUP) 5/25/04	86-S1-008 W1-12R 5/25/04	86-S1-009 W1-22 5/26/04	86-S1-010 W1-5 5/26/04	86-S1-011 W1-8 5/26/04	86-S1-012 W1-24 5/26/04	86-S1-013 W1-16 5/26/04
Hexachlorocyclopentadiene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitroso-di-n-propylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitrosodiphenylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenanthrene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

Notes:

but are not reported because all of the appropriate labratory QC documentation was not completed.

Shading indicates concentration above the calculated concentration limit.

Abbreviations and Acronyms:

 $\mu g/L$ – micrograms per liter

BHC-benzeneh exachloride

CCL - calculated concentration limit

COC – constitutent of concern

DDD - dichlorodiphenyl dichloroethane

 $DDE-dichlorodiphenyl\ trichloroethylene$

DDT – dichlorodiphenyl trichloroethane

DUP – duplicate sample

EPA – United States Environmental Protection Agency

J – estimated value

NAS - Naval Air Station

PCB – polychlorinated biphenyl

QC - quality control

SVOC - semivolatile organic compound

U - analyte not detected above project reporting limit

UJ – analyte not detected above the estimated reporting limit

VOC - volatile organic compound

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1.

^b – Duplicate sample was re-run at the request of the project chemist. All re-run values were less than the CCL,

	86-S1-056	86-S1-057	86-S1-058	86-S1-060	86-S1-061	86-S1-062	86-S1-063	86-S1-064	86-S1-065	86-S1-066	86-S1-067	86-S1-068
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	11/8/04	11/8/04	11/8/04	11/8/04	11/9/04	11/9/04	11/9/04	11/9/04	11/10/04	11/10/04	11/10/04	11/10/04
Dissolved Metals (µg/L)	EPA Method	200.8										
Aluminum	50 U	50 U	50 U	50 U	50 U	50.2	50 U	50 U	50 U	50 U	50 U	50 U
Antimony	4.22	4.89	4.82 J	4.49	4.94	1.94 U	2.2 U	2.81 UJ	3.4 U	3.65 UJ	2.72 U	1.64 U
Arsenic	5.75 J	7.96 J	2.82 J	7.53 J	3.31 J	2.2 J	1.74 J	1.79 J	3.81 J	3.88 J	11.5 J	4.91 J
Barium	111	126	81.3 J	147	60.5	1160	481	477 J	149	141 J	250	417
Beryllium	0.005 J	0.015 J	0.003 J	0.007 J	0.005 J	0.022 J	0.005 J	0.004 J	0.004 J	0.008 J	0.015 J	0.009 J
Cadmium	0.003 J	0.006 U	0.421 J	0.014 J	0.041	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.005 J	0.006 J
Chromium	0.25 J	0.51 J	0.17 J	0.44 J	0.26 J	6.19 J	0.64 J	0.62 J	0.73 J	0.63 J	1.65 J	0.63 J
Cobalt	8.68 J	4.36 J	11 J	6.09 J	3.28 J	0.101 J	0.727 J	1.15 J	0.775 J	1.28 J	1.98 J	5.93 J
Copper	0.3 J	0.13 J	0.38 J	0.23 J	0.24 J	0.37 J	0.11 J	0.15 J	0.14 J	0.16 J	0.17 J	0.17 J
Lead	0.017 J	0.018 U	0.039 J	0.145	0.012 J	0.213	0.009 J	0.009 U	0.143	0.009 U	0.021	0.009 U
Nickel	19.2	7.6	12.7 J	7.6	8.35	21.3	4.04	4.08 J	4.24	4.1 J	10.2	11.7
Selenium	0.7 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Silver	0.092	0.01 U	0.011 J	0.012 J	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Thallium	0.037	0.001 U	0.062 J	0.001 U	0.05	0.001 J	0.007 J	0.001 J	0.001 U	0.001 U	0.002 J	0.001 U
Vanadium	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Zinc	4.17 J	22.7 J	37.4 J	29.5 J	68.6 J	1320 J	0.79 J	0.5 J	4.92 J	3.2 J	2.22 J	0.42 J
Dissolved Metals (μg/L)	EPA Method	7470A										
Mercury	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ	4 UJ
VOCs (μg/L)	EPA Method	8260B										
1,1,1,2-Tetrachloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,1-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2-Trichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U
1,2-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

	86-S1-056	86-S1-057	86-S1-058	86-S1-060	86-S1-061	86-S1-062	86-S1-063	86-S1-064	86-S1-065	86-S1-066	86-S1-067	86-S1-068
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	11/8/04	11/8/04	11/8/04	11/8/04	11/9/04	11/9/04	11/9/04	11/9/04	11/10/04	11/10/04	11/10/04	11/10/04
1,2-Dichloroethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3,5-Trimethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2,2-Dichloropropane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Chlorotoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
4-Methyl-2-pentanone	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	50 UJ	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U	50 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 UJ	0.23 J	0.5 UJ	0.23 J	0.5 UJ	0.5 UJ
Carbon tetrachloride	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromomethane	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Hexachlorobutadiene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ
Isopropylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

	86-S1-056	86-S1-057	86-S1-058	86-S1-060	86-S1-061	86-S1-062	86-S1-063	86-S1-064	86-S1-065	86-S1-066	86-S1-067	86-S1-068
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	11/8/04	11/8/04	11/8/04	11/8/04	11/9/04	11/9/04	11/9/04	11/9/04	11/10/04	11/10/04	11/10/04	11/10/04
Methylene chloride	2 U	2 U	2 U	2 U	2 U	10 U	2 U	2 U	2 U	2 U	2 U	2 U
m,p-Xylene	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
n-Propylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
p-Isopropyltoluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
sec-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
tert-Butylbenzene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	2.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
Vinyl chloride	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
PCBs (µg/L)	EPA Method	8082										
Aroclor-1016	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1232	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260	0.94 UJ	0.94 UJ	0.94 UJ	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Pesticides (µg/L)	EPA Method	8081A										
4,4'-DDD	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
4,4'-DDE	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
4,4'-DDT	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Aldrin	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.011 J	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.14	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U

	86-S1-056	86-S1-057	86-S1-058	86-S1-060	86-S1-061	86-S1-062	86-S1-063	86-S1-064	86-S1-065	86-S1-066	86-S1-067	86-S1-068
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	11/8/04	11/8/04	11/8/04	11/8/04	11/9/04	11/9/04	11/9/04	11/9/04	11/10/04	11/10/04	11/10/04	11/10/04
delta-BHC	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.029 J	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Dieldrin	0.19 UJ	0.19 UJ	0.19 UJ	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Endosulfan I	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endosulfan sulfate	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.032 J	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin aldehyde	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
Endrin ketone	0.094 UJ	0.094 UJ	0.094 UJ	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U	0.094 U
gamma-BHC (Lindane)	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	0.047 UJ	0.047 UJ	0.047 UJ	0.047 U	0.047 U	0.034 J	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	0.47 UJ	0.47 UJ	0.47 UJ	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Toxaphene	2.8 UJ	2.8 UJ	2.8 UJ	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U	2.8 U
SVOCs (µg/L)	EPA Method	8270C										
1,1'-Biphenyl	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,4-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,6-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3/4-Methylphenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

	86-S1-056	86-S1-057	86-S1-058	86-S1-060	86-S1-061	86-S1-062	86-S1-063	86-S1-064	86-S1-065	86-S1-066	86-S1-067	86-S1-068
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	11/8/04	11/8/04	11/8/04	11/8/04	11/9/04	11/9/04	11/9/04	11/9/04	11/10/04	11/10/04	11/10/04	11/10/04
4,6-Dinitro-2-methylphenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Bromophenyl-phenylether	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl-phenylether	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acetophenone	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Atrazine	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Benzaldehyde	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Butylbenzylphthalate	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Caprolactam	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Carbazole	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzo(a,h)anthracene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Dimethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
di-n-Butylphthalate	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Octylphthalate	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

	86-S1-056	86-S1-057	86-S1-058	86-S1-060	86-S1-061	86-S1-062	86-S1-063	86-S1-064	86-S1-065	86-S1-066	86-S1-067	86-S1-068
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-8 (DUP)	W1-24	W1-16
	11/8/04	11/8/04	11/8/04	11/8/04	11/9/04	11/9/04	11/9/04	11/9/04	11/10/04	11/10/04	11/10/04	11/10/04
Hexachlorobenzene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Hexachlorocyclopentadiene	9.4 UJ	9.4 UJ	9.4 UJ	9.5 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ
Hexachloroethane	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitroso-di-n-propylamine	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitrosodiphenylamine	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenanthrene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenol	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

Notes:

Shading indicates concentration above the calculated concentration limit.

^a – Well W1-22 is a collection trench well and not representative of groundwater at Site 1

Abbreviations and Acronyms:

 $\mu g/L - micrograms per liter$

 $BHC-benzene\ hexachloride$

COC - constituent of concern

DDD – dichlorodiphenyl dichloroethane

DDE - dichlorodiphenyl trichloroethylene

DDT – dichlorodiphenyl trichloroethane

DUP – duplicate sample

EPA – Environmental Protection Agency

J - estimated value

NAS – Naval Air Station

PCB – polychlorinated biphenyl

SVOC – semivolatile organic compound

U – analyte not detected above project reporting limit

UJ - analyte not detected above the estimated reporting limit

VOC - volatile organic compound

SUPPLEMENTAL SAMPLING

TABLE B-4

JULY 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-017	86-S1-018	86-S1-019	86-S1-020	86-S1-022	86-S1-023	86-S1-024	86-S1-025	86-S1-026	86-S1-027	86-S1-028	86-S1-029
COC	W1-1	W1-15	W1-15 (DUP)	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22 ^a	W1-5	W1-8	W1-24	W1-16
	7/7/04	7/7/04	7/7/04	7/7/04	7/6/04	7/6/04	7/6/04	7/6/04	7/6/04	7/6/04	7/6/04	7/6/04
Dissolved Metals (μg/L)	EPA Method	7470A			•		•			•		
Mercury	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
SVOCs (µg/L)	EPA Method	8270C										
1,1'-Biphenyl	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,4-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,6-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3/4-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4,6-Dinitro-2-methylphenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Bromophenyl-phenylether	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl-phenylether	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acetophenone	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Atrazine	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U

TABLE B-4

JULY 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-001	86-S1-002	86-S1-003	86-S1-004	86-S1-006	86-S1-007	86-S1-008	86-S1-009	86-S1-010	86-S1-011	86-S1-012	86-S1-013
COC	W1-1	W1-1 (DUP)	W1-15	W1-19	W1-14	W1-14 (DUP)	W1-12R	W1-22	W1-5	W1-8	W1-24	W1-16
	5/24/04	5/24/04	5/24/04	5/25/04	5/25/04	5/25/04	5/25/04	5/26/04	5/26/04	5/26/04	5/26/04	5/26/04
Benzaldehyde	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Butylbenzylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Caprolactam	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Carbazole	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzo(a,h)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Dimethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
di-n-Butylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Octylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Hexachlorocyclopentadiene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitroso-di-n-propylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitrosodiphenylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenanthrene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenol	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.5 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

JULY 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

Notes:

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1

Abbreviations and Acronyms:

μg/L – micrograms per liter

DUP – duplicate sample

NAS - Naval Air Station

SVOC - semivolatile organic compound

U – analyte not detected above project reporting limit

TABLE B-5

AUGUST 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-030	86-S1-031	86-S1-032	86-S1-034	86-S1-035	86-S1-036	86-S1-037	86-S1-038	86-S1-039	86-S1-040	86-S1-041	86-S1-042
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-24	W1-16
	8/19/04	8/18/04	8/18/04	8/18/04	8/18/04	8/18/04	8/19/04	8/19/04	8/19/04	8/19/04	8/19/04	8/19/04
Dissolved Metals (μg/L)	EPA Method	7470A										-
Mercury	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U	8 U
SVOCs (µg/L)	EPA Method	8270C	L		L		L				<u>I</u>	
1,1'-Biphenyl	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,4-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,6-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3/4-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4,6-Dinitro-2-methylphenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Bromophenyl-phenylether	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl-phenylether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 UJ	19 U	19 U	19 U	19 U	19 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acetophenone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Atrazine	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U

TABLE B-5

AUGUST 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-030	86-S1-031	86-S1-032	86-S1-034	86-S1-035	86-S1-036	86-S1-037	86-S1-038	86-S1-039	86-S1-040	86-S1-041	86-S1-042
COC	W1-1	W1-15	W1-19	W1-14	W1-12	W1-12 (DUP)	W1-22a	W1-5	W1-5 (DUP)	W1-8	W1-24	W1-16
	8/19/04	8/18/04	8/18/04	8/18/04	8/18/04	8/18/04	8/19/04	8/19/04	8/19/04	8/19/04	8/19/04	8/19/04
Benzaldehyde	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	750 U ^b	19 U	19 U	19 U
Butylbenzylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Caprolactam	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Carbazole	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzo(a,h)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Dimethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
di-n-Butylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Octylphthalate	9.4 UJ	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ
Fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Hexachlorocyclopentadiene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitroso-di-n-propylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitrosodiphenylamine	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ
Pentachlorophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenanthrene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

AUGUST 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

Notes:

- ^a Well W1-22 is a collection trench well not representative of groundwater at Site 1
- b The result for bis(2-Ethylhexyl)phthalate in well W1-5 (duplicate sample 86-S1-039) is a lab contaminant. The sample was reanalyzed out of holding time and found to be non-detect. In addition, the regular sample for well W1-5 (86-S1-038) was non-detect for bis(2-Ethylhexyl)phthalate. Well W1-5 is upgradient of the Site 1 Landfill.

Abbreviations and Acronyms:

μg/L – micrograms per liter

COC - constituent of concern

DUP – duplicate sample

NAS - Naval Air Station

SVOC - semivolatile organic compound

U – analyte not detected above project reporting limit

UJ – analyte not detected above the estimated reporting limit

TABLE B-6
SEPTEMBER 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-043	86-S1-044	86-S1-045	86-S1-047	86-S1-048	86-S1-049	86-S1-050	86-S1-051	86-S1-052	86-S1-053	86-S1-054	86-S1-055
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	9/27/04	9/27/04	9/27/04	9/27/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04
Dissolved Metals (μg/L)	EPA Method	7470A								ı		
Mercury	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
SVOCs (µg/L)	EPA Method	8270C		•				•			•	
1,1'-Biphenyl	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2,2'-Oxybis(1-chloropropane)	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2,4,5-Trichlorophenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2,4,6-Trichlorophenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2,4-Dichlorophenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2,4-Dimethylphenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2,4-Dinitrophenol	20 U	19 U	20 U	20 U	19 U	19 UJ	19 U	19 U	19 U	19 U	19 U	20 U
2,4-Dinitrotoluene	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
2,6-Dinitrotoluene	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
2-Chloronaphthalene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2-Chlorophenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2-Methylnaphthalene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2-Methylphenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
2-Nitroaniline	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
2-Nitrophenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
3,3'-Dichlorobenzidine	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
3/4-Methylphenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
3-Nitroaniline	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
4,6-Dinitro-2-methylphenol	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
4-Bromophenyl-phenylether	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
4-Chloro-3-methylphenol	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
4-Chloroaniline	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
4-Chlorophenyl-phenylether	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
4-Nitroaniline	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
4-Nitrophenol	20 UJ	19 UJ	20 UJ	20 UJ	19 UJ	19 U	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	20 UJ
Acenaphthene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Acenaphthylene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Acetophenone	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Anthracene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Atrazine	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U

TABLE B-6
SEPTEMBER 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-043	86-S1-044	86-S1-045	86-S1-047	86-S1-048	86-S1-049	86-S1-050	86-S1-051	86-S1-052	86-S1-053	86-S1-054	86-S1-055
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-8	W1-8 (DUP)	W1-24	W1-16
	9/27/04	9/27/04	9/27/04	9/27/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04	9/28/04
Benzaldehyde	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Benzo(a)anthracene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Benzo(a)pyrene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Benzo(b)fluoranthene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Benzo(g,h,i)perylene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Benzo(k)fluoranthene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
bis(2-Chloroethoxy)methane	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
bis(2-Chloroethyl)ether	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
bis(2-Ethylhexyl)phthalate	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
Butylbenzylphthalate	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Caprolactam	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Carbazole	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Chrysene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Dibenzo(a,h)anthracene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Dibenzofuran	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Diethylphthalate	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
Dimethylphthalate	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
di-n-Butylphthalate	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
di-n-Octylphthalate	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Fluoranthene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Fluorene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Hexachlorobenzene	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
Hexachlorocyclopentadiene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Hexachloroethane	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Indeno(1,2,3-cd)pyrene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Isophorone	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
Nitrobenzene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
n-Nitroso-di-n-propylamine	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U
n-Nitrosodiphenylamine	10 UJ	9.6 UJ	10 UJ	10 UJ	9.5 UJ	9.4 UJ	9.5 UJ	9.5 UJ	9.4 UJ	9.6 UJ	9.4 UJ	9.9 UJ
Pentachlorophenol	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
Phenanthrene	20 U	19 U	20 U	20 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	20 U
Phenol	10 UJ	9.6 UJ	10 UJ	10 UJ	9.5 UJ	9.4 U	9.5 UJ	9.5 UJ	9.4 UJ	9.6 UJ	9.4 UJ	9.9 UJ
Pyrene	10 U	9.6 U	10 U	10 U	9.5 U	9.4 U	9.5 U	9.5 U	9.4 U	9.6 U	9.4 U	9.9 U

SEPTEMBER 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

Notes:

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1

Abbreviations and Acronyms:

μg/L – micrograms per liter

COC - constituent of concern

DUP – duplicate sample

NAS - Naval Air Station

SVOC – semivolatile organic compound

U - analyte not detected above project reporting limit

UJ – analyte not detected above the estimated reporting limit

TABLE B-7

DECEMBER 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-071	86-S1-072	86-S1-073	86-S1-075	86-S1-076	86-S1-077	86-S1-078	86-S1-079	86-S1-080	86-S1-081	86-S1-082	86-S1-083
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-24	W1-16
COC	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/14/04	12/14/04	12/14/04	12/14/04	12/14/04	12/14/04
Dissolved Metals (µg/L)	EPA Method					,,-	,,		/		,-,,,,,	
Mercury	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U	4 U
SVOCs (μg/L)	EPA Method	8270C							<u>. </u>		I.	
1,1'-Biphenyl	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane)	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,4-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2,6-Dinitrotoluene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3/4-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4,6-Dinitro-2-methylphenol	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ	19 UJ
4-Bromophenyl-phenylether	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl-phenylether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitrophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acetophenone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Atrazine	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U

TABLE B-7

DECEMBER 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1
FORMER NAS MOFFETT FIELD

	86-S1-071	86-S1-072	86-S1-073	86-S1-075	86-S1-076	86-S1-077	86-S1-078	86-S1-079	86-S1-080	86-S1-081	86-S1-082	86-S1-083
COC	W1-1R	W1-15	W1-19	W1-14	W1-12R	W1-12R (DUP)	W1-22 ^a	W1-5	W1-5 (DUP)	W1-8	W1-24	W1-16
	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/14/04	12/14/04	12/14/04	12/14/04	12/14/04	12/14/04
Benzaldehyde	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ	9.4 UJ
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Butylbenzylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Caprolactam	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Carbazole	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzo(a,h)anthracene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Dimethylphthalate	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
di-n-Butylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
di-n-Octylphthalate	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Hexachlorocyclopentadiene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitroso-di-n-propylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
n-Nitrosodiphenylamine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenanthrene	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U	19 U
Phenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

DECEMBER 2004 ANALYTICAL RESULTS FOR DISSOLVED MERCURY AND SEMIVOLATILE ORGANIC COMPOUNDS, SITE 1 FORMER NAS MOFFETT FIELD

Notes:

^a – Well W1-22 is a collection trench well not representative of groundwater at Site 1

Abbreviations and Acronyms:

μg/L – micrograms per liter

COC - constituent of concern

DUP – duplicate sample

EPA – Environmental Protection Agency

NAS - Naval Air Station

SVOC – semivolatile organic compound

U – analyte not detected above project reporting limit

UJ – analyte not detected above the estimated reporting limit

STATISTICAL EVALUATION

SUMMARY - DISSOLVED METALS FORMER NAS MOFFETT FIELD

MARCH 2004 MONITORING SUMMARY - DISSOLVED METALS

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
03/31/04	REG	W1-16	Downgrd.	Aluminum	3800	J	870	No	N/A	Yes	Exceeded CCL Location is downgradient well Monitor for exceedance in next two sampling rounds
03/30/04	REG	W1-5	Upgrad.	Barium	485		40	N/A	N/A	No	Location is a background well
03/30/04	REG	W1-8	Upgrad.	Barium	121	ī	40	N/A	N/A	No	Location is a background well
03/30/04	FD	W1-8	Upgrad.	Barium	164		40	N/A	N/A	No	Location is a background well
03/29/04	REG	W1-12R	Upgrad.	Barium	75.8		40	N/A	N/A	No	Location is a background well
03/30/04	REG	W1-14	Downgrd.	Barium	145		40	Yes	W1-5 693 µg/L 7/16/03	No	Less than historical background
03/29/04	REG	W1-15	Downgrd.	Barium	157	J	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
03/31/04	REG	W1-16	Downgrd.	Barium	384		40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
03/30/04	REG	W1-19	Downgrd.	Barium	81.8	J	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
03/30/04	FD	W1-19	Downgrd.	Barium	83.4	J	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
03/29/04	REG	W1-1R	Downgrd.	Barium	66.6	J	40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
03/31/04	REG	W1-24	Downgrd.	Barium	246		40	Yes	W1-5 693 μg/L 7/16/03	No	Less than historical background
03/30/04	FD	W1-8	Upgrad.	Chromium	107	J	71.5	N/A	N/A	No	Location is a background well Sample is field duplicate; regular sample was non-detect (400 U)

SUMMARY - DISSOLVED METALS FORMER NAS MOFFETT FIELD

MAY 2004 MONITORING SUMMARY - DISSOLVED METALS

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
05/26/04	REG	W1-16	Downgrd.	Aluminum	50	U	870	N/A	N/A	Yes	No exceedance in this round
											Continue watch for one more round
05/26/04	REG	W1-5	Upgrad.	Barium	524		40	N/A	N/A	No	Location is a background well
05/26/04	REG	W1-8	Upgrad.	Barium	130		40	N/A	N/A	No	Location is a background well
05/25/04	REG	W1-12R	Upgrad.	Barium	78.2		40	N/A	N/A	No	Location is a background well
05/25/04	REG	W1-14	Downgrd.	Barium	152		40	Yes	W1-5	No	Less than historical background
									693 μg/L 7/16/03		
05/25/04	FD	W1-14	Downgrd.	Barium	155	J	40	Yes	W1-5	No	Less than historical background
									693 μg/L 7/16/03		
05/24/04	REG	W1-15	Downgrd.	Barium	181		40	Yes	W1-5	No	Less than historical background
									693 μg/L 7/16/03		
05/26/04	REG	W1-16	Downgrd.	Barium	229	J	40	Yes	W1-5	No	Less than historical background
									693 μg/L 7/16/03		-
05/25/04	REG	W1-19	Downgrd.	Barium	86.6		40	Yes	W1-5	No	Less than historical background
									693 μg/L 7/16/03		Ç
05/24/04	REG	W1-1R	Downgrd.	Barium	71.5		40	Yes	W1-5	No	Less than historical background
									693 μg/L		Ç
									7/16/03		
05/24/04	FD	W1-1R	Downgrd.	Barium	72	J	40	Yes	W1-5	No	Less than historical background
									693 μg/L		-
									7/16/03		
05/26/04	REG	W1-24	Downgrd.	Barium	214		40	Yes	W1-5	No	Less than historical background
									693 μg/L		
									7/16/03		
05/26/04	REG	W1-16	Downgrd.	Silver	0.239	J	0.22	Yes	W1-12	No	Less than historical background
									21.7 μg/L		
									7/12/99		

SUMMARY - DISSOLVED METALS FORMER NAS MOFFETT FIELD

NOVEMBER 2004 MONITORING SUMMARY - DISSOLVED METALS

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
11/10/04	REG	W1-16	Downgrd.	Aluminum	50	U	870	N/A	N/A	No	No exceedance in this round
											Second consecutive non-detect since
											exceedance
											Consider previous exceedance as false
											positive
11/09/04	REG	W1-5	Upgrad.	Barium	481		40	N/A	N/A	No	Exceeded CCL
											Location is a background well
11/10/04	REG	W1-8	Upgrad.	Barium	141	J	40	N/A	N/A	No	Exceeded CCL
											Location is a background well
11/09/04	REG	W1-12R	Upgrad.	Barium	60.5		40	N/A	N/A	No	Exceeded CCL
											Location is a background well
11/09/04	REG	W1-14	Downgrd.	Barium	147		40	Yes	W1-5	No	Less than historical background
									693 μg/L		
									7/16/03		
11/08/04	REG	W1-15	Downgrd.	Barium	126		40	Yes	W1-5	No	Less than historical background
									693 μg/L		
44/40/04	250	****	- 1				4.0		7/16/03	3.7	
11/10/04	REG	W1-16	Downgrd.	Barium	417	'	40	Yes	W1-5	No	Less than historical background
									693 μg/L		
11/00/04	DEC	TT/1 10	D 1	- ·	01.2		40	3.7	7/16/03	3.7	T
11/08/04	REG	W1-19	Downgrd.	Barium	81.3	J	40	Yes	W1-5	No	Less than historical background
									693 μg/L		
11/00/04	DEC	W/1 1D	D 1	D .	111		40	37	7/16/03	3.7	T (1 1 1 1 1 1 1
11/08/04	REG	W1-1R	Downgrd.	Barium	111		40	Yes	W1-5	No	Less than historical background
									693 μg/L		
11/10/04	DEC	W1 24	D1	D	250	,	40	V	7/16/03	NI.	I 4h hi-4i1 hh 1
11/10/04	REG	W1-24	Downgrd.	Barium	250		40	Yes	W1-5	No	Less than historical background
									693 μg/L		
									7/16/03		

Abbreviations and Acronyms:

μg/L - micrograms per liter

CCL - calculated concentration limit

Conc. - concentration

Downgrd. - downgradient

Exceed. - exceedance
J - estimated value

N/A - not applicable NAS - Naval Air Station U - analyte not detected above project reporting limit

Upgrad. - upgradient

SUMMARY - VOCs FORMER NAS MOFFETT FIELD MARCH 2004 MONITORING SUMMARY - VOCs

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
				No exceedances reported							

SUMMARY - VOCs FORMER NAS MOFFETT FIELD MAY 2004 MONITORING SUMMARY - VOCs

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
05/24/04	REG	W1-15	Downgrd.	Carbon Disulfide	0.24	J	0.21	Yes	W1-12R 9.8 μg/L 01/16/01	No	Less than historical background

SUMMARY - VOCs FORMER NAS MOFFETT FIELD NOVEMBER 2004 MONITORING SUMMARY - VOCs

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	(110/1)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
11/09/04	FD	W1-5	Upgrad.	Carbon Disulfide	0.23	J	0.21	N/A	N/A		Location is a background well Sample is field duplicate; regular sample was non-detect (0.5 UJ)
11/10/04	FD	W1-8	Upgrad.	Carbon Disulfide	0.23	J	0.21	N/A	N/A	No	Location is a background well Sample is field duplicate; regular sample was non-detect (0.5 UJ)

Abbreviations and Acronyms:

μg/L - micrograms per liter

CCL - calculated concentration limit

Conc. - concentration

Downgrd. - downgradient

Exceed. - exceedance

J - estimated value

N/A - not applicable

NAS - Naval Air Station

UJ - analyte not detected above estimated reporting limit

VOC - volatile organic compound

SUMMARY - SVOCs FORMER NAS MOFFETT FIELD MAY 2004 MONITORING SUMMARY - SVOCs

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	
05/24/04	FD	W1-1R	Downgrd.	Caprolactam	6.2	J	5	No	N/A		Exceeded CCL Monitor next two sampling rounds Sample is field duplicate; regular sample was non-detect (9.4 U)
05/24/04	FD	W1-1R	Downgrd.	Bis(2-Ethylhexyl) Phthalate	42		30	No	N/A		Exceeded CCL Monitor next two sampling rounds Sample is field duplicate; regular sample was non-detect (19 U)

SUMMARY - SVOCs FORMER NAS MOFFETT FIELD JULY 2004 MONITORING SUMMARY - SVOCs

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment		
07/07/04	REG	W1-1R	Downgrd.	Caprolactam	9.4	U	5	N/A	N/A		No exceedance in this round Continue to watch for one more round		
07/07/04	REG	W1-1R	Downgrd.	Bis(2-Ethylhexyl) Phthalate	19 U		19 U		30	N/A	N/A		No exceedance in this round Continue to watch for one more round

SUMMARY - SVOCs FORMER NAS MOFFETT FIELD AUGUST 2004 MONITORING SUMMARY - SVOCs

Date	Sample Type	Well	Gradient	Analyte	Conc. (µg/L)	Qualifier	CCL (µg/L)	Less Than Historical Background	Maximum Historical Background	Track for 2 Out of 3 Exceed.	Comment
08/19/04	REG	W1-1R	Downgrd.	Caprolactam	9.4	U	5	N/A	N/A		No exceedance in this round Second consecutive non-detect since exceedance Consider previous exceedance as false positive
08/19/04	REG	W1-1R	Downgrd.	Bis(2-Ethylhexyl) Phthalate	19	U	30	N/A	N/A		No exceedance in this round Second consecutive non-detect since exceedance Consider previous exceedance as false positive

Abbreviations and Acronyms:

μg/L - micrograms per liter

CCL - calculated concentration limit

Conc. - concentration

Downgrd. - downgradient

Exceed. - exceedance

J - estimated value

N/A - not applicable

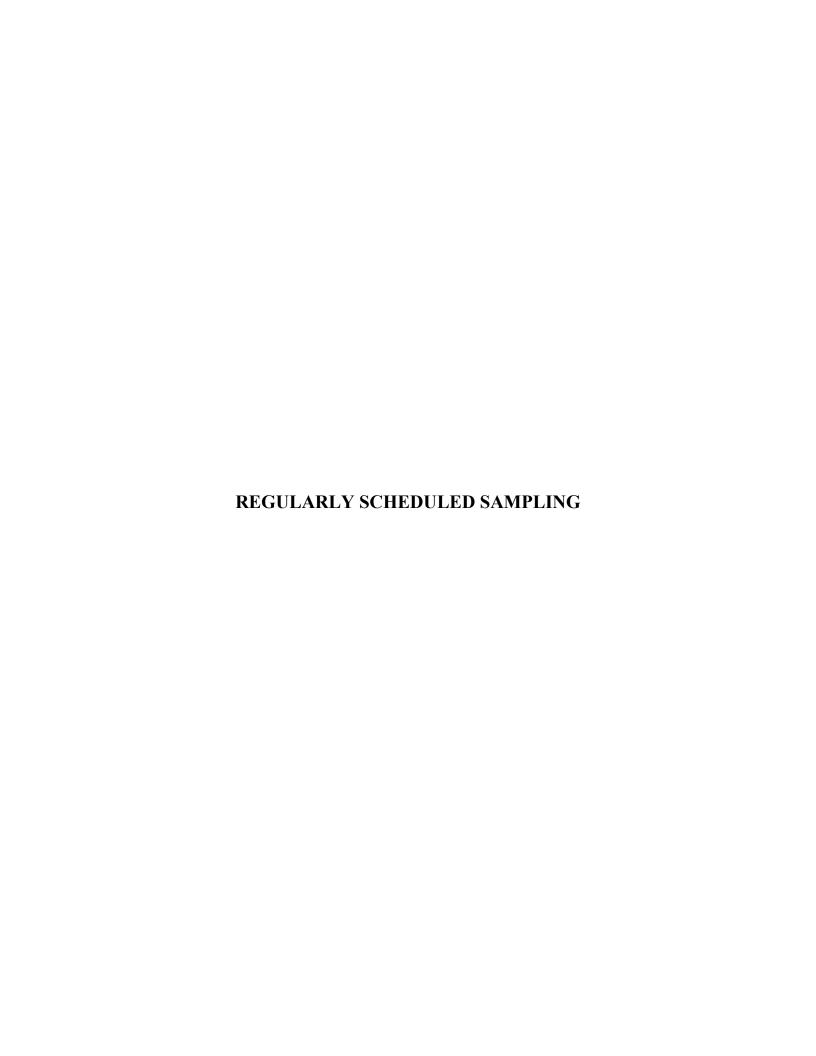
NAS - Naval Air Station

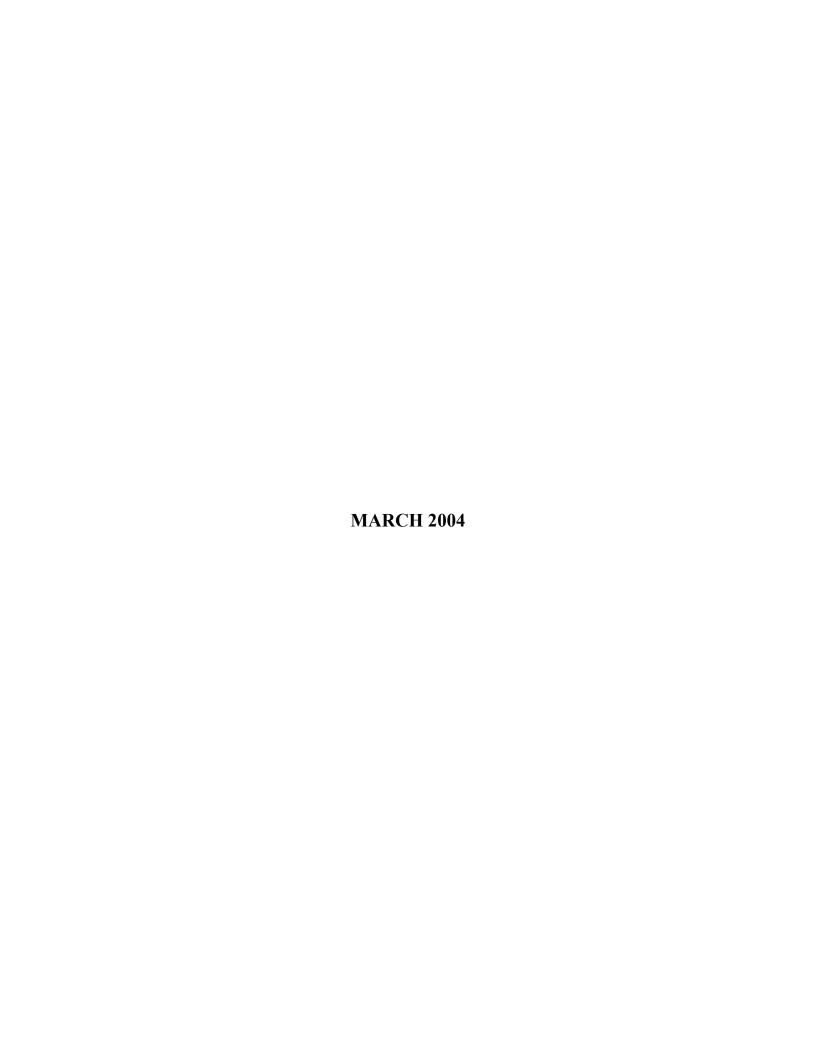
SVOC - semivolatile organic compound

U - analyte not detected above project reporting limit

APPENDIX C ANALYTICAL DATA VALIDATION PACKAGES

(Provided on CD only)





1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

NUMBER 04815

CHAIN-OF-CUSTODY RECORD

PROJECT NAME PURCHASE ORDER NO LABORATORY NAME ANALYSES REQUIRED CTO 71-SITE, 20848 - TASK 21 **Project Information** EMAX Section MOFFETT 1990.071E Do'not submit to SAMPLER NAME Laboratory LABORATORY ID 73.LL PROJECT CONTACT
LISA ISIEN KOWSKI AIRBILL NUMBER 841560120819 SAMPLE ID DATE COMMENTS LOCATION COLLECTED COLLECTED CONTAINER START END 3-29-04 71-51-030 1000 TRIP BLANK -SI-017 WI-RUN MS/MSD 3-29-04 10 3-29-04 1425 W1-12R 3-29-04/515 10 3-30-010900 10 71-51-019 W1-19 10 3-30-04 0930 WI-19 W1-14 10 3-20-04 1820 3-30-04 RECEIVED BY (Signature) LABORATORY INSTRUCTIONS/COMMENTS FIELD FILTERED SAMPLING COMMENT: TIME FROZY 1300 RELINQUISHED BY (Signature) COMPOSITE DESCRIPTION COMPANY TIME COMPANY RELINQUISHED BY (Signature) RECEIVED BY (Signature) Sasvipliki (2000) diduloka birokari (2001) zagrare sarkora (300) kar TEMPER APPERE NVPIUD (CIONIDIUII)ON BROKEN COMPANY TIME, COMPANY PROKEN



1835 W. 205th Street Torrance; CA-90501

Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 04-28-2004 EMAX Batch No.: 04C211

Attn: Lisa Bienkowski

Tetra Tech FW, Inc.

1940 E Deere Ave, Suite 200

Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, CTO 71, Site 1

Enclosed is the Laboratory report for samples received on 03/31/04. The data reported include:

Sample ID	Control #	Col Date	Matrix	Analysis
71-s1-030 71-s1-017	C211-01 C211-02			VOLATILE ORGANICS BY GC/MS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON
71-\$1-018	c211-03	03/29/04	WATER	NITRATE/NITRITE-N VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N

Sample ID	Control #	Col Date	Matrix	Analysis
71-\$1-023	c211-04	03/29/04	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N
71-\$1-024	c211-05	03/29/04	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N
71-\$1-019	c211-06	03/30/04	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON
71-\$1-020	C211-07	03/30/04	WATER	NITRATE/NITRITE-N VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON
71-s1-022	C211-08	03/30/04	WATER	NITRATE/NITRITE-N VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY

Sample ID	Control #	Col Date	Matrix	Analysis
71-S1-018MS	с211-03м	03/29/04	WATER	METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY
71-S1-018MSD	C211-03S	03/29/04	WATER	METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY
71-S1-018DUP	C211-03D	03/29/04	WATER	METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04C211

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Eight (8) water samples were received on 03/31/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd edition.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

5. Surrogate Recovery

Recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

Sample C211-03 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 04C211 Sample ID: 71-S1-030 Lab Samp ID: C211-01 Lab File ID: RCB718 Ext Btch ID: V003C68 Calib. Ref.: RCB248	Instru	Collected: 03/ Received: 03/ Extracted: 04/ Analyzed: 04/ on Factor: 1 ture : NA ment ID : T-0	
	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPTHANE 1,2-DICHLOROPROPANE 1,2-3-TRICHLOROBENZENE 1,2-3-TRICHLOROBENZENE 1,2-4-TRICHLOROBENZENE 1,2-4-TRICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-ETHYLENEDIBROMIDE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2-BUTANONE 2-BUTANONE 2-BUTANONE 2-HEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE BENZENE			
1,1,1-TRICHLOROETHANE	ND ND	:5	:5
1,1,2,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE	ND ND	.5	.3 .2
1,1-DICHLOROETHANE 1,1-DICHLOROETHENE	ND ND	. <u>5</u>	.2 .2
1,1-DICHLOROPROPENE	ND	.5	น้ำมนกับกับกับกับกับกับกับกับกับกับกับกับกับก
1,2,3-TRICHLOROPROPANE	ND ND	.5ੂੰ	:5
1,2,4-TRIMETHYLBENZENE	ND ND	:5	: 5
1,2-DIBROMO-3-CHLOROPROPANE 1.2-DICHLOROBENZENE	· ND ND	.5	.2
1,2-DICHLOROETHANE	ND ND	-5	.2
1,2-ETHYLENEDIBROMIDE	ND ND	.5	.5
1,3-DICHLOROBENZENE	ND	:5	:2
1,3-DICHLOROPROPANE 1,4-DICHLOROBENZENE	ND ND	. <u>\$</u>	.2
2,2-DICHLOROPROPANE 2-BUTANONE	ND ND	.5 10	.2
2-CHLOROTOLUENE	ND ND	.5 10	. 2
4-CHLOROTOLUENE	ND		ړ.
4-METHYL-2-PENTANONE ACETONE	ND ND	10	2
BROMOBENZENE	ND ND	• <u>5</u>	.2
BROMOCHLOROMETHANE BROMODICHLOROMETHANE	ND ND	-5	.3
BROMOFORM	ND	:5	:2
BRUMUMETHANE CARBON DISULFIDE	ND ND ND	.5	.5
CARBON TETRACHLORIDE CHLOROBENZENE	ND ND	.5	.2
CHLOROETHANE CHLOROEOPM	ND ND	1 5	-5
CHLOROMETHANE	ND ND	1	.5
BROMOFORM BROMMOFTHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROBENTENE CHLOROFTHANE CHLOROFTHANE CHLOROMETHANE CIS-1,2-DICHLOROPENE CIS-1,3-DICHLOROPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DICHLORODIFLUOROMETHANE ETHYLBRUZENE	ND	:5	:2
DIBROMOCHLOROMETHANE DIBROMOMETHANE	ND ND	.5	:2
DICHLORODIFLUOROMETHANE ETHYLBENZENE	ND ND	. 1	.5 .2
ETHYLBENZENE HEXACHLOROBUTAD IENE ISOPROPYL BENZENE	ND ND	.5	.2
M/P-XYLENES	ND ND	1	.3
M/P-XYLENES METHYLENE CHLORIDE N-BUTYLEBEAZENE N-PROPYLBENZENE	ND	.5ٍ	.2
NAPHIHALENE	ND ND	. <u>5</u>	.5
O-XYLENE P-ISOPROPYLTOLUENE	ND ND	้าน้ำน่าน้ำนั้นข้าน้ำนั้นที่นั้นข้าน้ำน้ำน้ำน้ำน้ำน้ำน้ำน้ำน้ำน้ำน้ำน้ำน้ำน	.2
SEC-BUTYLBENZENE Styrene	ND ND	.5	.2
TERT-BUTYLBENZENE TETRACHLOROETHYLENE	ND	:5	.2
TO! LIENE	ND ND	:5	.5
TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE	ND ND	.5	:2
TRICHLOROETHENE TRICHLOROFLUOROMETHANE	ND ND	.5 1	.2
VINYL CHLORIDE ACRYLONITRILE	ND ND	1 10	.3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	•
	108		
1,2-DICHLOROETHANE-D4 TOLUENE-D8	106	63-132 75-122	
BROMOFLUOROBENZENE	108	73-129	
R.L.: Reporting limit * : Out of QC			
E : Exceeded calibration range B : Found in associated method bl			

B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No.: 04C211 Sample ID: 71-S1-017 Lab Sample ID: C211-02 Lab File ID: RCB720 Ext Btch ID: V003C68 Calib. Ref.: RCB248	Date Date Diluti Matrix % Mois Instru	Collected: 03/2 Received: 03/3 Extracted: 04/0 Analyzed: 04/0 on Factor: 1 : WATE ture : NA ment ID : T-00	29/04 31/04 31/04 11:29 31/04 11:29 ER
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1,2-TETRACHLOROETHANE	ND ND		
1,1,1-TRICHLOROETHANE 1,1,2,2-TETRACHLOROETHANE	ND	. <u>\$</u>	:3
1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE	ND ND	.5	.2
1,1-DICHLOROETHENE 1,1-DICHLOROPROPENE	ND ND	.5	.2
1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROPROPANE	ND ND	.5	.2
1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE	ND ND	.5 .5	.2 .2
1, 2-D I BROMO-3-CHLOROPROPANE 1, 2-D I CHLOROBENZENE	- ND ND	.5 .5	.2
1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE	ND ND	.5 .5	.2 ,2
1,2-ETHYLENEDIBROMIDE 1,3-5-TRIMETHYLBENZENE	ND ND	.5	.2
1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE	ND ND	.5	.2
1,4-DICHLOROBENZENE 2,2-DICHLOROPROPANE	ND ND	.5 .5	.2 .2
2-BUTANONE 2-CHLOROTOLUENE	ND ND	10 .5	.2
Z-HEXANONE 4-CHLOROTOLUENE	ND ND	10 .5	1 .2
4-METHYL-2-PENTANONE ACETONE	ND ND	10 10 ·	1 2
BENZENE BROMOBENZENE	ND ND	.5 .5	.2 .2
BROMOCHLOROMETHANE BROMODICHLOROMETHANE	ND ND	.5 .5	:2
BROMOFORM BROMOMETHANE	ND ND	.5 1	.2
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-DIGHOROMO-3-CHLOROPROPANE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-ETHYLENEDIBROMIDE 1,2-ETHYLENEDIBROMIDE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROBENZENE 2,2-DICHLOROBENZENE 2,2-DICHLOROBENZENE 2-BUTANONE 2-BUTANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 3-HEXANONE 3-HEXANONE 4-CHLOROFIOLUEN	ND ND	טיטיר עינעיני עינער עינער עינער עינער עינער עינער עינער עינער עינער עינער עינער עינער עינער עינער עינער עינערע	น้ำมนกับกับกับกับกับกับกับกับกับกับกับกับกับก
CHLOROBENZENE CHLOROETHANE	ND ND	- <u>5</u>	.2 .2
CHLOROFORM CHLOROMETHANE	ND ND	-5 1	.5
CIS-1,2-DICHLOROETHENE CIS-1,3-DICHLOROPROPENE	ND ND	. <u>5</u>	.2
DIBROMOCHLOROMETHANE DIBROMOMETHANE	ND ND	.5	. <u>2</u>
DICHLORODIFLUOROMETHANE ETHYLBENZENE	ND ND	. <u>5</u>	.2
HEXACHLOROBUTADIENE ISOPROPYL BENZENE	ND ND	.5	.2
M/P-XYLENES METHYLENE CHLORIDE	ND ND	1 <u>2</u>	.1
N-BUTYLBENZENE N-PROPYLBENZENE	ND ND	.5	:5
CHLOROFORM CHLOROMETHANE CIS-1,2-DICHLOROPEDPENE CIS-1,2-DICHLOROPEDPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DICHLORODIFLUOROMETHANE BICHLORODIFLUOROMETHANE ETHYLBENZENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE SEC-BUTYLBENZENE STYRENE TERT-BUTYLBENZENE STYRENE TERT-BUTYLBENZENE TERT-BUTYLBENZENE TERT-BUTYLBENZENE	ND ND ND	.5	.2.
P-ISOPROPYLTOLUENE SEC-BUTYLBENZENE	ND ND ND	.5	:5
STYRENE TERT-BUTYLBENZENE	ND	:5	:5
TETRACHLOROETHYLENE TOLUENE	ND .	:5	: 5
TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE	ND ND	:}	:5
TRICHLOROETHENE TRICHLOROFLUOROMETHANE	ND ND	.,	.5
STYRENE TERT-BUTYLBENZENE TETRACHLOROETHYLENE TOLUENE TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRICHLOROFUOROMETHANE VINYL CHLORIDE ACRYLONITRILE	ND ND	10	-3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TOLUENE-D8	126 96 98	63-132 75-122 73-129	
BROMOFLUOROBENZENE	98	73-129	
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range	-1-		

E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 04C211 Sample ID: 71-S1-018 Lab Samp ID: C211-03 Lab File ID: RCB719 Ext Btch ID: V003C68 Calib. Ref.: RCB248	Date Date Diluti Matrix % Mois	Collected: 03// Received: 03// Extracted: 04// Analyzed: 04// on Factor: 1 : WATE ture : NA ment ID : T-00	29/04 31/04 01/04 10:50 01/04 10:50 ER
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1.1.2-TETRACHLOROETHANE 1.1.1-TRICHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROPROPENE 1.2.3-TRICHLOROBRIZENE 1.2.3-TRICHLOROPROPANE 1.2.4-TRICHLOROPROPANE 1.2.4-TRICHLOROBENZENE 1.2.4-TRIMETHYLBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROETHANE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.3-DICHLOROPROPANE			
1,1,1-TRICHLOROETHANE	ND ND ND	.5	:5
1,1,2-TRICHLOROETHANE	ND	. <u>5</u>	.2
1,1-DICHLOROETHANE 1.1-DICHLOROETHENE	ND ND	.5 .5	:2
1,1-DICHLOROPROPENE 1,2-TRICHLOROPENZENE	ND ND	.5	.2
1,2,3-TRICHLOROPROPANE	ND ND	:5	
1,2,4-TRIMETHYLBENZENE	ND	.5€	:5
1,2-DICHLOROBENZENE	ND ND	.5ౖ	.2
1,2-DICHLOROPROPANE	ND ND ND	. <u>2</u>	:2
1,2-ETHYLENEDIBROMIDE 1,3,5-TRIMETHYLBENZENE	ND ND	.5 .5	:2
1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE	ИD	.5 .5	:2
1,4-DICHLOROBENZENE	ND ND ND	Ę	-3
2,2-DICHLOROPROPANE 2-BUTANONE 2-CHLOROTOLUENE	ND ND	iģ	-5
2-HEXANONE	ND ND	iģ	• 1
4-METHYL-2-PENTANONE	NID.	įģ	- 1
ACETONE BENZENE	ND ND ND	1 <u>0</u>	.2
BROMOBENZENE BROMOCHLOROMETHANE	ND ND	.5	.2 .2
BROMODICHLOROMETHANE	ND ND	-5	.2
BENZENE BROMOBENZENE BROMOBENZENE BROMOCHLOROMETHANE BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROBENZENE	ND .21J	1	.2
CARBON TETRACHLORIDE	ND ND	:5	:5
CHLOROETHANE	ND ND ND	-1	:5
CHLOROFORM CHLOROMETHANE	ND	<u>., 5</u>	: <u>ई</u>
CIS-1,2-DICHLOROETHENE CIS-1.3-DICHLOROPROPENE	ND ND	:5	:2
DIBROMOCHLOROMETHANE DIBROMOMETHANE	ND	.5 5	:2
DICHLORODIFLUOROMETHANE	ND ND ND	1	.5 .2
HEXACHLOROBUTADIENE	ND ND	. <u>\$</u>	.5
M/P-XYLENES	ND	1	: \$
N-BUTYLBENZENE	ND ND	<u>ئ</u> ةِ.	. ģ
CARBON TETRACHLORIDE CHLOROSENZEME CHLOROFORM CHLOROFORM CHLOROMETHANE CIS-1,2-DICHLOROSETHENE CIS-1,3-DICHLOROPPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DICHLORODIFLUOROMETHANE ETHYLENEZENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-BUTYLBENZENE N-ROPYLBENZENE N-BUTYLBENZENE N-BUTYLBENZENE N-BUTYLBENZENE STYRENE SEC-BUTYLBENZENE STYRENE TERT-BUTYLBENZENE TRANS-1, 2-DICHLOROPEDEPERE	ND ND	טט - טיטיטטטטטטטטטטטטטטטטטטטטטטטטטטטטטט	น้ำเล่นกับกับที่เล่น เล่นกับที่เล่นกับที่เล่นกับที่เล่นกับที่เล่นกับที่เล่นที
O-XYLENE P-ISOPROPYLTOLUENE	ND ND	:5	:2
SEC-BUTYLBENZENE STYRENE	ND ND	.5 .5	:2
TERT-BUTYLBENZENE	ND.	• 5	-5
TOLUENE TOLUENE	ND ND	.5	.2
TRANS-1,3-DICHLOROPROPENE	NĐ	:5	:5
TRICHLOROFLUOROMETHANE	ND ND	.]	.5
TOLUENE TRANS-1,2-DICHLOROETHENE TRANS-1,2-DICHLOROPROPENE TRICHLOROETHENE TRICHLOROFLUOROMETHANE VINYL CHLORIDE ACRYLONITRILE	ND ND	10	-3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1.2-DICHLOROETHANE-D4	122	63-132	
1,2-DICHLOROETHANE-D4 TÓLUENE-D8 BROMOFLUOROBENZENE	122 100 101	63 - 132 75 - 122 73 - 129	
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range			

: Out of QC

E : Exceeded calibration range

B : Found in associated method blank

J : Value between R.L. and MDL

D : Value from dilution analysis

D.O.: Diluted out

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 04C211 Sample ID: 71-S1-023 Lab Samp ID: C211-04 Lab File ID: RCB721 Ext Btch ID: V003C68 Calib. Ref.: RCB248	Date Date Date Date Dilut Matri % Mois Instri	Collected: 03/25 Received: 03/31 Extracted: 04/01 Analyzed: 04/01 ion Factor: 1 (: WATER sture : NA ument ID : T-003	t .
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1 1 1.2-TETRACHI OROETHANE	ND		
1,1,1-TRICHLOROETHANE 1,1,2,2-TETRACHLOROETHANE	ND ND	.5 1	.2
1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE	ND ND	.5 .5	.2 .2
1,1-DICHLOROETHENE 1,1-DICHLOROPROPENE	ND ND	. 5	: <u>2</u>
1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROPROPANE	ND ND ND	• <u>5</u>	.2 .2
1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE	ND	:5	.2
1,2-DIBROMO-3-CHLOROPROPANE 1,2-DICHLOROBENZENE	· ND ND	.5	.2
1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE	ND ND	.5	:٤
1,2-ETHYLENEDIBROMIDE 1,3,5-TRIMETHYLBENZENE	ND ND	:5	:5
PARAMETERS 1.1.2-TETRACHLOROETHANE 1.1.1-TRICHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.5-DICHLOROETHANE 1.1.5-DICHLOROETHANE 1.2.3-TRICHLOROENENE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.5-DICHLOROENZENE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.3-DICHLOROETHANE 1.3-DICHLOROENZENE 1.3-DICHLOROENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROPROPANE 1.4-DICHLOROBENZENE 2.2-DICHLOROBENZENE 2.3-DICHLOROPROPANE	ND ND ND	- <u>5</u>	.2
2,2-DICHLOROBENZENE 2,2-DICHLOROPROPANE	ND ND ND	.5 10	:5
2-BUTANONE 2-CHLOROTOLUENE 3-UEVANONE	ND ND	10	.ž
2-2-DICHOROPROFANE 2-BUTANONE 2-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 4-CHTHYL-2-PENTANONE ACETONE	ND ND	10	. <u>ż</u> 1
ACETONE	ND	10 -5	.2
BROMOBENZENE BROMOCHLOROMETHANE	ND ND ND	.5	. <u>2</u> .2
BROMODICHLOROMETHANE BROMOFORM	ND ND	.5	.2 .2
BROMOMETHANE CARBON DISULFIDE	ND ND ND	. <u>5</u>	.2 .2
CARBON TETRACHLORIDE CHLOROBENZENE	ND	-5	.2
CHLOROFTHANE CHLOROFORM	ND ND	.5	: <u>É</u>
CHLOROMETHANE CIS-1,2-DICHLOROETHENE	ND ND	.၌	.52
CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE	ND ND ND	-5	:5
DICHLORODIFLUOROMETHANE	ND ND	์	:5
HEXACHLOROBUTADIENE	ND ND	5	.2
M/P-XYLENES	ND ND	1 2	-3
N-BUTYLBENZENE N-PROPYLBENZENE	ND ND ND	.5 .5	.2
NAPHTHALENE O-XYLENE	ND	. <u>5</u>	.3 .2
4-METHYL-2-PENTANONE ACETONE BENZENE BROMOBENZENE BROMOGHLOROMETHANE BROMODICHLOROMETHANE BROMOMETHANE BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CIS-1,2-DICHLOROPETHENE CIS-1,2-DICHLOROPENE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE BICHLORODIFLUOROMETHANE ETHYLBENZENE HEXACHLOROBUTADIENE 1SOPROPYL BENZENE M/P-XYLENES METHYLBENZENE N-PROPYLBENZENE TETRACHCLOROBUTADIENE STYRENE TETRACHCLOROBUTADIENE STYRENE TETRACHCLOROBUTADIENE TETRACHCOROBUTADIENE	ND ND	ບທ່ານທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ຕົວກົດຕົນທີ່ທີ່ວັນທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທີ່ທ	นี้ย์กับกับกับกับกับกับกับกับกับกับกับกับกับก
STYRENE TERT-BUTYLBENZENE	ND ND	.5	.5
TETRACHLOROETHYLENE TOLUENE	ND ND ND	:5	: 5
TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE	ND ND	ΞĘ	:5
TRICHLOROFIDEN VINYL CHLORIDE ACRYLONITRILE	ND ND	- 1	.2
ACRYLONITRILE	ND	10	-5
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TÓLUENE-D8 BROMOFLUOROBENZENE	125 95 99	63-132 75-122 73-129	
	99	73-129	
R.L.: Reporting limit * : Out of QC			
E : Exceeded calibration range	nk		

E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out

Client: TETRA TECH FW, INC. Project: MFA, CTO 71, SITE 1 Batch No.: 04C211 Sample ID: 71-S1-019 Lab Samp ID: C211-06 Lab File ID: RCB722 Ext Btch ID: V003C68 Calib. Ref.: RCB248	Date Date Date Date Dilut Matri % Mois Instru	Collected: 03/30 Received: 03/31 Extracted: 04/01 Analyzed: 04/01 ion Factor: 1 (: WATER sture : NA ument ID : T-003	į
PARAMETERS 1.1.1	RESUBLITS 1	RL) 515-515-515-515-515-515-515-515-515-515	MDL MDL - เก่นมีกับกับกับกับกับกับกับกับกับกับกับกับกับก
D : Value from dilution analysis D.O.: Diluted out			

		BUILDER	======================================
Client : TETRA TECH FW, INC. Project : MFA, CTD 71, SITE 1 Batch No. : 04C211 Sample IB: 71-S1-020 Lab Samp ID: C211-07 Lab File ID: RCBT23 Ext Btch ID: V003C68 Calib. Ref.: RCB248	Date Date	Collected: 03/ _Received: 03/	30/04 31/04 01/04 13:27 01/04 13:27
Batch No. : 04C211 Sample ID: 71-S1-020	Date Date	Extracted: 04/ Analyzed: 04/	01/04 13:27 01/04 13:27
Sample ID: 71-\$1-020 Lab Samp ID: C211-07 Lab File ID: RCB723	Diluti	on Factor: I	
Ext Btch ID: V003C68 Calib. Ref.: RCB248	Matrix % Mois	: WAT	= K
Calib. Ref.: RCB248	Instru 	ment ID : T-O	03 ========
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1,1,1,2-TETRACHLORGETHANE	ND	5	
1,1,1-TRICHLOROETHANE	ND ND	.5	. 2
1,1,2-TRICHLOROETHANE	ND	-≱	:2
1,1-DICHLOROETHANE 1,1-DICHLOROETHENE	ND ND	:5	
1,1-DICHLOROPROPENE 1,2,3-TRICHLOROBENZENE	ND ND	.5	:2
1,1,2,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 1,1-DICHLOROFOPENE 1,2,3-TRICHLOROPROPENE 1,2,3-TRICHLOROPROPANE 1,2,3-TRICHLOROPROPANE 1,2,3-TRICHLOROPROPANE 1,2,3-TRICHLOROPROPANE	ND ND	-5	.2
1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE 1,2-DIBROMO-3-CHLOROPROPANE	ND	:ฐ	:2
1,3-DICHIODOBENZENE	ND ND	.5	.2
1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,2-ETHYLENEDIBROMIDE 1,3,5-TRIMETHYLBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE	ND ND	.5	:2
1,2-ETHYLENED I BROMIDE	ND ND	.5	.2
1,3-DICHLOROBENZENE	ND ND	5	.2
1,3-DICHLOROPROPANE 1,4-DICHLOROBENZENE 2,2-DICHLOROPROPANE	ND	:5ੂ	:5
2,2-DICHLOROPROPANE 2-BUTANONE	ND ND	10 10	-5
2-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE	ND ND	15 10	. <u>2</u>
2-BUTANONE 2-GHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE	ND ND	15	۶.
ACETONE	ND	ί <u>ŏ</u>	2
BENZENE BENZENE BROMOBENZENE BROMOCHLOROMETHANE BROMOL CHLOROMETHANE BROMOFORM	ND ND	.5	:5
BROMOCHLOROMETHANE BROMODICHLOROMETHANE	ND ND	.5 .5	.2
BROMOFORM BROMOMETHANE	ND ND	-5	.2
CARBON DISULFIDE	ND	.၌	:5
CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE	ND ND	.5	.5
CHLOROEORM	ND ND	.5	:2
CHLOROMETHANE CIS-1, 2-DICHLOROETHENE CIS-1, 3-DICHLOROPROPENE DIBROMOCHLOROMETHANE	ND ND	1 .5	.5
CIS-1,3-DICHLOROPROPENE	ND ND	ž	.2
D I BROMOMETHANE	ND	:ទ្វី	: 2
ETHYLBENZENE	ND ND ND	.5॑	:2
HEXACHLOROBUTADIENE ISOPROPYL BENZENE	ND ND	:5	: <u>\$</u>
M/P-XYLENES METHYLENE CHIORIDE	ND ND	1 2	.3
DIBROMOCHLOROMETHANE DIBROMOMETHANE DICHLORODIFLUOROMETHANE ETHYLBENZENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE NAPHTHALENE O-XYLENE SEC-BUTYLBENZENE SEC-BUTYLBENZENE SEC-BUTYLBENZENE	ND ND	.5	.2
NAPHTHALENE	ND	:5	.3
P-ISOPROPYLTOLUENE	ND ND	:5	:5
SEC-BUTYLBENZENE STYRENE	ND ND	.5	: <u>ई</u>
TERT-BUTYLBENZENE TETRACHLOROETHYLENE TOLUENE	ND ND·	ข้าน เล่ากับที่เก็บที่ เล่ากับที่ เล่ากับที่ เล่ากับที่ เล่ากับที่ เล่ากับที่ เล่ากับที่ เล่ากับที่ เล่ากับที่	ั้นพื้นที่เก็นที่
TOLUENE TRANS-1 2-NICHI OPOETHENE	ND ND	-5	.2
TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE	ND	:5ౖ	:5
TRICHLORDETHENE TRICHLOROFLUOROMETHANE	ND ND	.5 1	:2
TRICHLOROFLUOROMETHANE VINYL CHLORIDE ACRYLONITRILE	ND ND	1 10	.3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE	1 28 100 9 8	63-132 75-122 73-129	
R.L.: Reporting Limit			

R.L.: Reporting limit
* : Out of QC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 04C211 Sample ID: 71-S1-022 Lab Samp ID: C211-08 Lab File ID: RCB/24 Ext Btch ID: V003C68 Calib. Ref.: RCB248	Date Date Date Diluti Matrix % Mois	ment ID : T-00	R
DADAMETEDS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS			(ug/L)
1,1,1-TRICHLOROETHANE	ND ND	.5	:5
1,1,2,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE	ND ND	. <u>5</u>	.3 .2
1,1-DICHLOROETHANE 1,1-DICHLOROETHENE	ND ND	:5	:2
1,1-DICHLOROPROPENE 1,2,3-TRICHLOROBENZENE	ND ND	.5 .5	:2
1,2,3-TRICHLOROPROPANE	ND ND	ΞĘ	-2
1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROPROPANE 1,2,4-TRIMETHYLBENZENE 1,2,4-TRIMETHYLBENZENE 1,2-DIBROMO-3-CHLOROPROPANE 1,2-DIBROMO-3-CHLOROPROPANE 1,2-DICHLOROBENZENE	ND	. <u>š</u>	:2
1,2-DICHLOROBENZENE	· ND ND	.5ౖ	.ģ
1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE	ND ND	:5	:၌
1,2-DIBROMO-5-CHLOROPROPANE 1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,2-ETHYLENEDIBROMIDE 1,3-5-TRIMETHYLBENZENE 1,3-5-TRIMETHYLBENZENE 1,3-5-TRIMETHYLBENZENE	ND ND	:2	:ξ
	ND ND	.5	:2
1,3-DICHLOROPROPANE 1,4-DICHLOROBENZENE 2,2-DICHLOROPROPANE	ND ND	.5 .5	:2
2-BUTANONE 2-CHLOROTOLUENE 3-CHLOROTOLUENE	ND ND	10	5
2-HEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE	ND ND	iğ	1
4-METHYL-2-PENTANONE	ND ND	<u>i</u> ó	1
ACETONE BENZENE BROMOBENZENE	ND	ž	.5
RROMOCKI OROMETHANE	ND ND	.5	:5
BROMODICHLOROMETHANE BROMOFORM	ND ND	:5	:5
BROMOMETHANE	ND ND	ຜ່ນປ່ວນກໍ່ວ່າກໍາກໍ່ວ່າກໍ່ຕໍາກໍ່າກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່າກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່າກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່າກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍາກໍ່ຕໍາກໍາກໍາກໍາກໍາກໍາກໍາກໍາກໍາກໍ່ຕໍາກໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍາກໍາກໍ່ຕໍາກໍ່ຕໍາກໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍ່ຕໍາກໍາກໍາກໍາກໍາກໍາກໍາກ	้านกับกับกับกับกับกับกับกับกับกับกับกับกับก
CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE	ND ND	.5	.2 .2
CHLOROETHANE CHLOROFORM	ND ND	1	.2
CHIOROMETHANE	ND ND	1	:5
CIS-1,2-DICHLOROETHENE CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE	NĐ	.5	.5
DIBROMOCHLOROMETHANE DIBROMOMETHANE DICHLORODIFLUOROMETHANE	ND ND	.5	چَّ:
	ND ND	. <u>5</u>	.2
HEXACHLOROBUTADIENE ISOPROPYL BENZENE	ND ND	.5	. <u>2</u>
M/P-XYLENES METHYLENE CHLORIDE	ND ND	1 2	.3
N-BUTYL BENZENE	ND ND	• <u>5</u>	.2
HITLBENZENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE NAPHTHALENE O-XYLENE B-ISOPROPYLIONIENE	ND ND	5	.3
P-ISOPROPYLTOLUENE SEC-BUTYLBENZENE	ND ND	:5ౖ	:3
SEC-BUTYLBENZENE STYRENE TERT-BUTYLBENZENE	ND	.5	.5
TETPACHI OPOSTNYI ENS	ND ND	:5	:5
TOLUENE TRANS-1, 2-DICHLOROETHENE TRANS-1, 3-DICHLOROPROPENE TRICHLOROETHENE TRICHLOROFLUOROMETHANE	ND ND	.5	:5
TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE	ND ND	.5 .5	:\$
TRICHLOROFLUOROMETHANE VINYL CHLORIDE	ND ND	1	.3
ACRYLONITRILE	ND	10	5
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TÓLUENE-D8	127 107	63-132 75-122	
TOLUENE-D8 BROMOFLUOROBENZENE	98	75-122 73-129	
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method bla	nk		

B : Found in associated method bl
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA. CTO 71. SITE 1

SDG:

04C211

SW3520C/8081A PESTICIDES

Seven (7) water samples were received on 03/31/04 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%. Endrin and DDT breakdown were within QC limits.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

Sample C211-03 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



Client : TETRA TECH FW, INC. Date Collected: 03/29/04 Project : MFA, CTO 71, SITE 1
Batch No. : 04C211
Sample ID: 71-S1-017 Date Received: 03/31/04 Date Extracted: 04/01/04 17:00 Date Analyzed: 04/02/04 16:27 Dilution Factor: .94 Lab Samp ID: C211-02 Lab File ID: SD02011A Matrix : WATER Ext Btch ID: CPD002W % Moisture : NA Instrument ID : GCT008 Calib. Ref.: SD02003A

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .029J	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA - CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028].028
4,41-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.094 .019 .019
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,41-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
	·	-
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	70 (102)	20-145
DECACHLOROB I PHENYL	77 (81)	20-165
	. ,	

RL: Reporting limit

Left of $\big|$ is related to first column ; Right of $\big|$ related to second column () included the reported column



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Client : TETRA TECH FW, INC.	Date Collected: 03/29/04
Project : MFA, CTO 71, SITE 1	Date Received: 03/31/04
Batch No. : 04C211	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-018	Date Analyzed: 04/02/04 16:52
Lab Samp ID: C211-03	Dilution Factor: .94
Lab File ID: SD02012A	Matrix : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02003A	Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	.039J (ND)	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND)].064	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	.01J (MD)	.047 .0094[.0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) .029J	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094[.0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.094 .019[.019
ENDRIN	(ND) ND	.094 .019[.019
4,4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019[.019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	85 (94)	20-145
DECACHLOROBIPHENYL	77 (82)	20-165



Client : TETRA TECH FW, INC.	Date Collected: 03/29/04
Project : MFA, CTO 71, SITE 1	Date Received: 03/31/04
Batch No. : 04C211	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-023	Date Analyzed: 04/02/04 18:58
Lab Samp ID: C211-04	Dilution Factor: 1
Lab File ID: SD02017A	Matrix : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02003A	Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
			**1 **
ALPHA-BHC	(ND) ND	.05	.01 .01
GAMMA-BHC (LINDANE)	(ND) ND	.05	.01 .01
BETA-BHC	(ND) .028J	.05	.01 .01
HEPTACHLOR	(DN) LS10.	.05	.01 .01
DELTA-BHC	(ND) ND	.05	.01 .01
ALDRIN	(ND) ND	.05	.01 .01
HEPTACHLOR EPOXIDE	(ND) ND	.05	-01 .01
GAMMA-CHLORDANE	(ND) ND	.05	.01 .01
ALPHA-CHLORDANE	(ND) ND	.05	-01 .01
ENDOSULFAN I	(ND) ND	.05	.03 .03
4,4'-DDE	(ND) ND	_1	.03 .03
DIELDRIN	(ND) ND	.1	.02 .02
ENDRIN	(ND) ND	_1	.02 .02
4,4'-DDD	(ND) ND	.1	.03 .03
ENDOSULFAN II	(ND) ND	.1	.02].02
4,4'-DDT	(ND) ND	.1	.02].02
ENDRIN ALDEHYDE	(NĐ) ND	.1	.02 .02
ENDOSULFAN SULFATE	(ND) ND	_1	.02 .02
ENDRIN KETONE	(ND) ND	.1	.02 .02
METHOXYCHLOR	(D) (D)	.5	.1 .1
TOXAPHENE	(ND) ND	3	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
SURRUGATE PARAMETERS	% RECOVER1	ac Statt	
TETRACIII ODO-M-VVI ENE	(90) 190	20-145	
TETRACHLORO-M-XYLENE	(80) 80	20-145	
DECACHLOROBIPHENYL	76 (81)	20-165	



Client : TETRA TECH FW, INC. Date Collected: 03/29/04
Project : MFA, CTO 71, SITE 1 Date Received: 03/31/04
Batch No. : 04C211 Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-024 Date Analyzed: 04/02/04 19:24
Lab Samp ID: C211-05 Dilution Factor: .94
Lab File ID: SD02018A Matrix : WATER
Ext Btch ID: CPD002W % Moisture : NA
Calib. Ref.: SD02003A Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(1880.) 890.	.047 .0094 .0094
GAMMA-BHC (LINDANE)	.024J (ND)	.047 .0094 .0094
BETA-BHC	(ND) .052	.047 .0094 .0094
HEPTACHLOR	-22 (ND)	.047 .0094 .0094
DELTA-BHC	(ND) 024J	.047 .0094 .0094
ALDRIN	.097 (ND)	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	.056 (ND)	.047 .0094 .0094
ALPHA-CHLORDANE	(GN) L810.	.047 .0094 .0094
ENDOSULFAN I	(ND) .038J	.047 .028 .028
4,4'-DDE	(DN) LS80.	.094 .028[.028
DIELDRIN	.0341 (.051)	.094 .019 .019
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(.0391) .0291	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	.21 (ND)	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	.034J (ND)	.094 .019 .019
METHOXYCHLOR	.19J (ND)	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORG-M-XYLENE	182* (80)	20-145
DECACHLOROBIPHENYL	75 (155)	20-165

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column () included the reported column

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Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 03/31/04
Batch No. : 04C211	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-019	Date Analyzed: 04/02/04 19:49
Lab Samp ID: C211-06	Dilution Factor: .94
Lab File ID: SD02019A	Matrix : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02003A	Instrument ID : GCT008
Calib. Ref.: SD02003A	Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
ALPHA-BHC	(ND) ND	.047	
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND)[.034J	.047	.0094 .0094
HEPTACHLOR	.01J (.013J)	.047	.0094 .0094
DELTA-BHC	.016J (ND)	.047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(D) D	.047	.0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	.047	
4,41-DDE	(ND) ND	-094	
DIELDRIN	(ND) ND	.094	.019 .019
ENDRIN	(ND) ND	-094	.019 .019
4,4'-DDD	(ND) ND	.094	.028 .028
ENDOSULFAN II	(ND) ND	-094	.019 .019
4,4:-DDT	(ND) ND	.094	.019].019
ENDRIN ALDEHYDE	(ND) ND	.094	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.094	.019 .019
ENDRIN KETONE	(ND) ND	.094	.019 .019
METHOXYCHLOR	(ND) ND	.47	.094 .094
TOXAPHENE	(ND) ND	2.8	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	66 (71)	20-145	
DECACHLOROBIPHENYL	76 (80)	20-165	



______ Date Collected: 03/30/04 : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Date Received: 03/31/04 Date Extracted: 04/01/04 17:00 Batch No. : 04C211 Date Analyzed: 04/02/04 20:14 Sample ID: 71-S1-020 Lab Samp ID: C211-07 Dilution Factor: .94 : WATER Lab File ID: SD02020A Matrix : NA Ext Btch ID: CPD002W % Moisture Calib. Ref.: SD02003A Instrument ID : GCT008

•	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-8HC	(ND) ND	.047 .0094 .0094
GAMMA-8HC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .019J	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.094 .019 .019
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,41-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019[.019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND)[ND	2.8 1.2 1.2
	•	
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	67 (76)	20-145
DECACHLOROBIPHENYL	76 (81)	20-165

Left of | is related to first column ; Right of | related to second column () included the reported column



Client : TETRA TECH FW, INC. Date Collected: 03/30/04 Date Received: 03/31/04
Date Extracted: 04/01/04 17:00 : MFA, CTO 71, SITE 1 Project Batch No. : 04C211 Sample ID: 71-S1-022 Lab Samp ID: C211-08 Date Analyzed: 04/02/04 20:39 Dilution Factor: .94 : WATER Lab File ID: SD02021A Matrix Ext Btch ID: CPD002W % Moisture : NA Calib. Ref.: SD02003A Instrument ID : GCT008

	RESI	JLTS	RL	MDL
PARAMETERS	(u	g/L)	(ug/L)	(ug/L)
ALPHA-BHC	(ND)	ND	.047	.0094 .0094
GAMMA-BHC (LINDANE)	(ND)	ND	.047	.0094 .0094
BETA-BHC	(ND)	.035J	.047	.0094 .0094
HEPTACHLOR	(ND)	ND ·	.047	.0094 .0094
DELTA-BHC	.016J	(ND)	.047	.0094 .0094
ALDRIN	(ND)	ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND)	ND	.047	.0094 .0094
GAMMA-CHLORDANE	(ND)	ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND)	ND	.047	.0094 .0094
ENDOSULFAN I	(ND)	ND	.047	.028 .028
4,4'-DDE	(ND)	ND	.094	.028 .028
DIELDRIN	(ND)	ND	.094	.019 .019
ENDRIN	(ND)	ND	.094	.019 .019
4,41-DDD	(ND)	ND	.094	.028 .028
ENDOSULFAN II	(ND)	ND	.094	.019 .019
4,4'-DDT	(ND)	ND	.094	.019 .019
ENDRIN ALDEHYDE	(ND)	ND	.094	.019 .019
ENDOSULFAN SULFATE	(ND)	ND	.094	.019 .019
ENDRIN KETONE	(ND)	ND	.094	.019 .019
METHOXYCHLOR	(ND)	ND	.47	.094 .094
TOXAPHENE	(ND)	ND	2.8	1.2 1.2
	o/ b=			
SURROGATE PARAMETERS	% REG	COVERY	OC LIMIT	
		144045	20.445	
TETRACHLORO-M-XYLENE		(101)	20-145	
DECACHLOROBIPHENYL	80	(84)	20-165	

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

() included the reported column



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04C211

SW3520C/8082 PCBs

Seven (7) water samples were received on 03/31/04 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was five-point for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and all recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

Sample C211-03 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



SW3520C/8082

	:====== ==	
Client : TETRA TECH FW, INC.		Date Collected: 03/29/04
Project : MFA, CTO 71, SITE 1		Date Received: 03/31/04
Batch No. : 04C211	_	Date Extracted: 04/01/04 17:00
Sample ID: 71-\$1-017		Date Analyzed: 04/02/04 16:27
Lab Samp ID: C211-02		Dilution Factor: .94
Lab File ID: SD02011A		Matrix : WATER
Ext Btch ID: CPD002W		% Moisture : NA
Calib. Ref.: SD02006A		Instrument ID : GCT008
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.94 .24 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	1.9 .24 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	-94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
	4575.140	20.4/5
TETRACHLORO-M-XYLENE	(57) 69 (100) 105	20-145 20-165
DECACHI ODOR I DHENYI	C1111111111111111111111111111111111111	ZU-100



sw3520C/8082 PCBs

: TETRA TECH FW, INC. Date Collected: 03/29/04 Client Date Received: 03/31/04
Date Extracted: 04/01/04 17:00 Project : MFA, CTO 71, SITE 1 Batch No. : 04C211 Sample ID: 71-S1-018 Lab Samp ID: C211-03 Lab File ID: SD02012A Ext Btch ID: CPD002W Calib. Ref.: SD02006A Date Analyzed: 04/02/04 16:52 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	1.9	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) D	-94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(73) 115	20-145	
DECACHLOROBIPHENYL	(105) 105	20-165	

RL: Reporting Limit



sw3520c/8082 PCBs

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	TRA TECH FW, INC.		Date Collected:	
Project : MF/	A, CTO 71, SITE 1		Date Received:	03/31/04
Batch No. : 040	211	_	Date Extracted:	04/01/04 17:00
Sample ID: 71	-S1-023		Date Analyzed:	04/02/04 18:58
Lab Samp ID: C2	11-04		Dilution Factor:	1
Lab File ID: SDO	02017A		Matrix :	WATER
Ext Btch ID: CPI	0002W		% Moisture :	NA
Calib. Ref.: SDO				GCT008
		RESULTS	RL	MD1.
PARAMETERS		(ug/L)	(ug/L)	(ug/L)
PCB-1016		(ND) ND	1	.25 .25
PCB-1221		(ND) ND	1	.25 .25
PCB-1232		(ND) ND	1	.25 .25
PCB-1242		(ND) ND	2	.25 .25
PCB-1248		(ND) ND	1	.25 .25
PCB-1254		(ND) ND	. 1	.25 .25
PCB-1260		(ND) ND	1	.25
SURROGATE PARAM	ETERS	% RECOVERY	QC LIMI	T
				-
TETRACHLORO-M-X	YLENE	(60) 75	20-14	5
DECACHLOROB I PHE	NYL	(103) 105	20-16	5



SW3520C/8082 PC8s

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Client : TETRA TECH FW, INC.		Date Collected: 03/29/04
Project : MFA, CTO 71, SITE 1		Date Received: 03/31/04
Batch No. : 04C211	_	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-024		Date Analyzed: 04/02/04 19:24
Lab Samp ID: C211-05		Dilution Factor: .94
Lab File ID: SD02018A		Matrix : WATER
Ext Btch ID: CPD002W		% Moisture : NA
Calib. Ref.: SD02006A		Instrument ID : GCT008
=======================================		
	RESULTS	. RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.94 .24 .24
PCB-1232	(ND)]ND	.94 .24 .24
PCB-1242	(ND) ND	1.9 .24 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORD-M-XYLENE	(92) 74	20-145
DECACHLOROBIPHENYL	(81) 152	20-165

SW3520C/8082 PCBs

Client : TETRA TECH FU	, INC.	Date Collected:	03/30/04
Project : MFA, CTO 71,	SITE 1	Date Received:	03/31/04
Batch No. : 04C211	-	Date Extracted:	04/01/04 17:00
Sample ID: 71-S1-019		Date Analyzed:	04/02/04 19:49
Lab Samp ID: C211-06		Dilution Factor:	.94
Lab File ID: SD02019A		Matrix :	WATER
Ext Btch ID: CPD002W		% Moisture :	NA
Calib. Ref.: SD02006A		Instrument ID :	GCT008
=======================================			
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
Den 1017	cumatum	0/	241 24

PARAMETERS	(ug/L)	(ug/L)	(ug/L)
			-
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.9 4	.24 -24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	1.9	.24 .24
PCB-1248	(ND) ND	-94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(54) 69	20-145	
DECACHLOROBIPHENYL	(103) 103	20 -16 5	



SW3520C/8082 PCBs

=======================================		
Client : TETRA TECH FW, INC.		Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1		Date Received: 03/31/04
Batch No. : 04C211	-	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-020		Date Analyzed: 04/02/04 20:14
Lab Samp ID: C211-07		Dilution Factor: .94
Lab File ID: SD02020A		Metrix : WATER
Ext Btch ID: CPD002W		% Moisture : NA
Calib. Ref.: SD02006A		Instrument ID : GCT008
DIDANGTERS	RESULTS	RL MDL (ug/L) (ug/L)
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PCB-1016	(ND) ND	.94 .241.24
PC8-1221	(ND) ND	.94 .24 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	1.9 .24 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT

TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit

(55)|69 (102)|104

20-145 20-165



sw3520c/8082

	=========	
Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 04C211 Sample ID: 71-S1-022 Lab Samp IO: C211-08 Lab File ID: SD02021A Ext Btch ID: CPD002W Calib. Ref.: SD02006A	-	Date Collected: 03/30/04 Date Received: 03/31/04 Date Extracted: 04/01/04 17:00 Date Analyzed: 04/02/04 20:39 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PARAMETERS	(09/1/	
PCB-1016	(ND) ND	.94 .24 .24
		.94 .24 .24
PCB-1221	(ND) ND	
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	1.9 .24 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(80) [97	20-145
DECACHLOROSIPHENYL	(108) 109	20-165
DECACREUKUDIFRENIL	(100/ 102	PA (G2

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit



CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04C211

METHOD 3010A/6010B TOTAL AND DISSOLVED METALS BY ICP

Seven (7) water samples were received on 03/31/04 for Total and Dissolved Metals analysis by Method 3010A/6010B in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample C211-03 (Total and Dissolved) were analyzed for serial dilution and post-analytical spike. All QC requirements were met.

Matrix Spike/Matrix Spike Duplicate

Samples C211-03 (Total and Dissolved) were spiked. All recoveries were within QC limit except Manganese in MS/MSD of C211-03 (Dissolved) and Iron in MSD of C211-03 (Dissolved) were out the limit. All cations (Ca, K, Mg and Na) in both MS/MSD could not be evaluated since the parent samples concentration were relatively high (>4x) to spiking level.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

All samples were analyzed at DF20 for regular ICP and at DF10 for Trace ICP due to matrix interference from high sodium concentration.



Client :	TETRA TECH FW. INC.	Date Collected: 03/29/04
Project :	MFA, CTO 71, SITE 1	Date Received: 03/31/04
SDG NO. :	04C211	Date Extracted: 04/06/04 08:45
Sample ID:	7.1-S1-017	Date Analyzed: 04/13/04 20:49
Lab Samp ID:	C211-02	Dilution Factor: 20
Lab File ID:	I07D023026	Matrix : WATER
Ext Btch ID:	IPD012W	% Moisture : NA
Calib. Ref.:	1070023020	Instrument ID : EMAXTIO7

	RESULTS	RL.	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
			••••
Aluminum	ND	4	1.2
Antimony	ND	2	.8
Barium	. 0696J	.2	. 04
Beryllium	ND	.2	. 02
Cadmium	. ND	.2	. 04
Calcium	503	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	ND	20	.6
Magnesium	1900	20	2
Manganese	5. 95	2	.06
Nickel	ND	.4	.2
Potassium	493	100	20
Silver	ND	.4	.1
Sodium .	14900	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Client : TETRA TECH FW. INC.	Date	Collected:	03/29/04
Project : MFA, CTO 71, SITE 1	Date	Received:	03/31/04
SDG NO. : 04C211	Date	Extracted:	04/06/04 08:45
Sample ID: 71:S1-017	Date	Analyzed:	04/26/04 12:14
Lab Samp ID: C211-02	Dilution Factor: 10		
Lab File ID: I31D048026	Matrix	:	WATER
Ext Btch ID: IPD012W	% Moisture : NA		
Calib. Ref.: I31D048020	Instrument ID : EMAXTI31		
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Arsenic	ИD	.1	.04
Lead	ND	.1	.02
Selenium	.0523J	.1	.05
Thallium	ND	.1	.05



Client :	TETRA TECH FW, INC.	Date Collected: 03/29/04
Project :	MFA, CTO 71, SITE 1	Date Received: 03/31/04
SDG NO. :	04C211	Date Extracted: 04/06/04 08:45
Sample ID:	71 <u>-</u> \$1-018	Date Analyzed: 04/13/04 20:53
Lab Samp ID:	C211-03	Dilution Factor: 20
Lab File ID:	107D023027	Matrix : WATER
Ext Btch ID:	IPD012W	% Moisture : NA
Calib. Ref.:	107D023020	Instrument ID : EMAXTI07

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	ND	4	1.2
Antimony	ND	2	.8
Barium	, 148J	.2	.04
Beryllium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	541	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	20J	20	.6
Magnesium	1830	20	2
Manganese	1.97J	2	.06
Nickel	ND	.4	.2
Potassium	485	100	20
Silver	ND	.4	.1
Sodium	14000	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Client : TETRA TECH FW, INC.	Date	Collected:	03/29/04
Project : MFA, CTO 71, SITE 1	Date	Received:	03/31/04
SDG NO. : 04C211	Date	Extracted:	04/06/04 08:45
Sample ID: 71-S1-018	Date	Analyzed:	04/26/04 12:19
Lab Samp ID: C211-03	Dilut	ion Factor:	10
Lab File ID: I31D048027	Matri	х :	WATER
Ext Btch ID: IPD012W	% Moi	sture :	NA
Calib. Ref.: I31D048020	Instrument ID : EMAXTI31		
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
			•••••
Arsenic	ND	.1	.04
Lead	ND	.1	.02
Selenium	ND	.1	.05
Thallium	ND	.1	.05



Client : TETRA TECH FW. INC.	Date Collected: 03/29/04
Project : MFA, CTO 71, SITE 1	Date Received: 03/31/04
SDG NO. : 04C211	Date Extracted: 04/06/04 08:45
Sample ID: 71-S1-023	Date Analyzed: 04/14/04 12:31
Lab Samp ID: C211-04	Dilution Factor: 20
Lab File ID: 107D022035	Matrix : WATER
Ext Btch ID: IPD012W	% Moisture : NA
Calib. Ref.: I07D022032	Instrument ID : EMAXTI07

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
1 AIVIII 1 EKS	(1197.5)	(11.97.27	(119/ 11/
Aluminum	ND	4	1.2
Antimony	ND	2	.8
Barium	.0808J	.2	.04
Beryllium	ND	.2	.02
Cadmium	. ND	.2	.04
Calcium	605	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	2.28J	20	.6
Magnesium	1860	20	2
Manganese	6.52	2	.06
Nickel	.206J	.4	.2
Potassium	404	100	20
Silver	ND	.4	.1
Sodium ·	13900	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1		Collected:	
SDG NO. : 04C211			04/06/04 08:45
Sample ID: 71-S1-023			04/26/04 12:54
Lab Samp ID: C211-04		on Factor:	
Lab File ID: I31D048034	Matrix	: '	WATER
Ext Btch ID: IPD012W	% Mois	ture :	NA
Calib. Ref.: I31D048032	Instrument ID : EMAXTI31		
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
*********		• • • • • •	
Arsenic	ND	.1	.04
Lead	ND	.1	.02
Selenium	ND	.1	.05
Thallium	ND	.1	.05



Client : TETRA TECH FW, INC.	Date Collected: 03/29/04
Project : MFA, CTO 71, SITE 1	Date Received: 03/31/04
SDG NO. : 04C211	Date Extracted: 04/06/04 08:45
Sample ID: 71-S1-024	Date Analyzed: 04/14/04 12:36
Lab Samp ID: C211-05	Dilution Factor: 20
Lab File ID: I07D022036	Matrix : WATER
Ext Btch ID: IPD012W	<pre>% Moisture : NA</pre>
Calib. Ref.: I07D022032	Instrument ID : EMAXTI07
1.1.5.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	1.32J	4	1.2
Antimony	ND	2	.8
Barium	.311	, <u>z</u>	.04
Beryllium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	747	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	20.1	20	.6
Magnesium	1100	20	2
Manganese	7.53	2	.06
Nickel	ND	.4	.2
Potassium	180	100	20
Silver	ND	.4	.1
Sodium	6100	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Arsenic ND .1 .04
Lead ND .1 .02
Selenium ND .1 .05
Thallium .0629J .1 .05

Client TETPA TECH FILL THE	Data	Collected:	02/20/04
Client : TETRA TECH FW, INC.			
Project : MFA, CTO 71, SITE 1		Received:	
SDG NO. : 04C211			04/06/04 08:45
Sample ID: 71-S1-019			04/14/04 12:40
Lab Samp ID: C211-06	Diluti	on Factor:	20
Lab File ID: 107D022037	Matrix	:	WATER
Ext Btch ID: IPD012W	% Mois	ture :	NA
Calib. Ref.: I07D022032	Instru	ment ID :	EMAXTI07
	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
Aluminum	1.23J	4	1.2
Antimony	ND	2	.8
Barium	.081.J	2	.04

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)

Aluminum	1.23J	4	1.2
Antimony	ND	2	8.
Barium	.081J	2	.04
Beryllium	ND	.2	.02
Cadmium	. ND	.2	.04
Calcium	550	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	3.01J	-20	.6
Magnesium	1860	20	2
Manganese	4.27	2	.06
Nickel	ND	.4	.2
Potassium	455	100	20
Silver	ND	.4	.1
Sodium	13700	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE I	Date Date	Collected: Received:	
SDG NO. : 04C211			04/06/04 08:45
Sample ID: 71-S1-019			04/26/04 13:03
Lab Samp ID: C211-06		ion Factor:	
Lab File ID: I31D048036	Matri:		WATER
Ext Btch ID: IPD012W			NA
Calib. Ref.: I31D048032	Instr	ument ID :	EMAXTI31
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Arsenic	ND	.1	.04
Lead	ND	.1	.02
Selenium	ND	.1	.05
Thallium	ND	.1	. 05



Client :	TETRA TECH FW, INC.	Date	Collected:	03/30/04	
Project :	MFA, CTO 71, SITE 1	Date	Received:	03/31/04	
SDG NO. :	04C211	Date	Extracted:	04/06/04	08:45
Sample ID:	71-S1-020	Date	Analyzed:	04/14/04	12:44
Lab Samp ID:	C211-07		ion Factor:		
Lab File ID:	1070022038	Matrix	٠ :	WATER	
Ext Btch ID:	IPD012W	% Mois	sture :	NA	
Calib. Ref.:	107D022032	Instr	ument ID :	EMAXTI07	
		RESULTS	RI		MDI

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
Aluminum	ND	4	1.2
Antimony	ND	2	.8
Barium	.0748J	.2	.04
Beryllium	ND	.2	.02
Cadmium	, ND	.2	.04
Calcium	586	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	3.15J	20	.6
Magnesium	1990	20	- 2
Manganese	4.53	2	.06
Nickel	ND	.4	.2
Potassium	487	100	20
Silver	ND	.4	.1
Sodium	14500	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04C211 Sample ID: 71-S1-020 Lab Samp ID: C211-07 Lab File ID: I31D048037 Ext Btch ID: IPD012W Calib. Ref.: I31D048032	Date Date Date Diluti Matrix % Mois	Analyzed: on Factor:	03/31/04 04/06/04 08:45 04/26/04 13:09 10 WATER NA
PARAMETERS Arsenic Lead Selenium Thallium	RESULTS (mg/L) ND ND ND ND	RL (mg/L) .1 .1	MDL (mg/L) .04 .05 .05



Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 03/31/04
SDG NO. : 04C211	Date Extracted: 04/06/04 08:45
Sample ID: 71-S1-022	Date Analyzed: 04/14/04 12:49
Lab Samp ID: C211-08	Dilution Factor: 20
Lab File ID: I07D022039	Matrix : WATER
Ext Btch ID: IPD012W	<pre>% Moisture : NA</pre>
Calib. Ref.: 107D022032	Instrument ID : EMAXTIO7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
	((119, 2)	
Aluminum	ND	4	1.2
Antimony	ND	ż	.8
Barium	.16J	.2	.04
Beryllium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	642	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	14.6J	20	.6
Magnesium	2120	20	2
Manganese	2.78	2	.06
Nickel	ND	.4	.2
Potassium	473	100	20
Silver	ND	.4	.1
Sodium ·	15000	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 03/31/04
SDG NO. : 04C211	Date Extracted: 04/06/04 08:45
Sample ID: 71:S1:022	Date Analyzed: 04/26/04 13:14
Lab Samp ID: C211-08	Dilution Factor: 10
Lab File ID: I31D048038	Matrix : WATER
Ext Btch ID: IPD012W	% Moisture : NA
Calib. Ref.: I310048032	Instrument ID : EMAXTI31

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
			•••
Arsenic	ND	.1	.04
Lead	ND	.1	.02
Selenium	ND	.1	. 05
Thallium	ND	.1	.05

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04C211

METHOD 7470A TOTAL & DISSOLVED MERCURY BY COLD VAPOR

Seven (7) water samples were received on 03/31/04 for Total and Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blanks were free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the control limits.

4. Serial Dilution/Post Analytical Spike

Sample C211-03 was analyzed for serial dilution. % Difference was not evaluated since diluted sample result was not detected. Analytical spike was performed and met the QC criteria were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample C211-03 was spiked. The recoveries were within the QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were analyzed with dilution factor of 10 matrix problem.

METHOD 7470A MERCURY BY COLD VAPOR

Client : Project : Batch No. :	: TETRA TECH FW, INC. : MFA, CTO 71, SITE 1 : 04C211									Matr Insti	Matrix : W Instrument ID : TJ	WATER T1047	
	X Y	DECENT TO		8	Š	Analymán	40,140,000				Colloction	, bourboad	
SAMPLE ID	SAMPLE ID	(ug/L)	DLF MOIST	(ng/L)	(ug/L)	DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATÉTIME	DATETIME	
		::::	:::::::::::::::::::::::::::::::::::::::	:	:			:	:				
MBLK1W		Q	1 NA	ī,	.25	04/20/0415:33	04/19/0416:00) M47D017034	M470017032	HGD018W	NA	04/19/04	
CCS1M .		5.07	1 NA	ī	53.	04/20/0415:35	04/19/0416:00) M47D017035	M470017032	HGD018W	NA	04/19/04	
LC01W		5.07	1 NA	ιċ	55.	04/20/0415:37	04/19/0416:00	3 M47D017036	M47D017032	HGD018W	NA	04/19/04	
71-S1-018A		170	10 NA	ß	2.5	04/20/0415:39	04/19/0416:00) M47D017037	M470017032	HGD018W	03/29/04	03/31/04	
71-51-018		운	10 NA	ī,	2.5	04/20/0415:41	04/19/0416:00	9 M470017038	M470017032	HGD018W	03/29/04	03/31/04	
71-S1-018DL		문	50 NA	22	12.5	04/20/0415:44	04/19/0416:00) M47D017039	M47D017032	HGD018W	03/29/04	03/31/04	
71-51-017		S	10 NA	5	2.5	04/20/0415:50	04/19/0416:00	0 M47D017042	M470017032	HGD018W	03/29/04	03/31/04	
71-51-023		문	10 NA	ις	2.5	04/20/0415:52	04/19/0416:00) M47D017043	M470017032	HGD018W	03/29/04	03/31/04	
71-51-024		Q.	10 NA	3	2.5	04/20/0415:59	04/19/0416:00) M47D017046	M47D017044	HGD018W	03/29/04	03/31/04	
71-51-019		2	10 NA	2	2,5	04/20/0416:01	04/19/0416:00) M47D017047	M47001,7044	HGD018W	03/30/04	03/31/04	
71-51-020		문	10 NA	5	2,5	04/20/0416:04	04/19/0416:00) M47D017048	M47D017044	HGD018W	03/30/04	03/31/04	
71-51-022		욷	10 NA	2	2.5	04/20/0416:06	04/19/0416:00	0 M47D017049	M47D017044	HGD018W	03/30/04	03/31/04	
71-S1-018M		22.3	10 NA	5	2.5	04/20/0416:25	04/19/0416:00	0 M47D017058	M47D017056	HGD018W	03/29/04	03/31/04	
71-S1-018M		21.5	10 NA	ç	2.5	04/20/0416:28	04/19/0416:00	J M47D017059	M47D017056	HGD018W	03/29/04	03/31/04	



CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04C211

METHOD 353.3 NITRATE/NITRITE-N

Seven (7) water samples were received on 03/31/04 for Nitrate/Nitrite-N analysis by Method 353.3 in accordance with "Methods for Chemical Analysis of water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Duplicate

Sample C211-03 was analyzed for duplicate. %RPD was within QC limit.

5. Matrix Spike

Sample C211-03 was spiked. %Recovery was within QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Client : TET Project : MF/	: TETRA TECH FW, INC. : MFA. CTO 71. SITE 1										Matrîx Înstru	ment 1D :	: WATER : 170
Batch No. : 040	Batch No. : 04C211	=======================================	:: :: :: ::		:: :: :: :: ::			" 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		11 11 11 11 11 11	14 9 14 14 14 15 16 17 18 18 18 18 18 18 18 18 18 18 18 18 18	11	
	EMAX	RESULTS			돲	MDL	Analysis	Extraction				Collection	Received
SAMPLE ID	SAMPLE ID	(mg/L)	DLF MO	MOIST (1	(T/6m)	(mg/L)	· DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME
	1	*****	:	:									
71M	NAD001WB	용	-	Ą	Ψ.	.02	04/09/0411:09	NA.	NAD001W-10	NAD001W-07	NAD001W	AN	NA.
LCS1W	NADOOTML	.520		Ä	-	8	04/09/0411:10	AN	NAD001W-11	NAD0014-07	NAD001W	AN	AN
	NADOOTHC	.530	_	Ā	-	.02	04/09/0411:11	NA	NAD001W-12	NAD0014-07	NAD001W	ΝΑ	AN
31-017	C211-02	.140	_	ΑN	-	.03	04/09/0411:12	AN	NAD001W-13	NAD001W-07	NAD001W	03/29/04	03/31/04
s1-018	C211-03	9	_	Ϋ́	-	.02	04/09/0411:13	NA	NAD001W-14	NAD001W-07	NADÓ01W	03/59/04	03/31/04
S1-0180UP	C211-03D	9	-	NA A	٦.	.02	04/09/0411:14	NA	NAD001W-15	NAD001W-07	NAD001W	03/29/04	03/31/04
S1-018MS	C211-03M	.527	-	NA A	۲.	-02	04/09/0411:15	NA	NAD001W-16	NAD001W-07	NAD001W	03/29/04	03/31/04
s1-023	C211-04 ·	1.11	2	Ą	~	.04	04/09/0411:17	NA	NAD001W-18	NAD001W-07	NAD001W	03/29/04	03/31/04
71-51-024	C211-05	.527	-	NA A	۲.	.02	04/09/0411:20	ΑN	NAD001W-21	NAD001W-19	NAD001W	03/59/04	03/31/04
s1-019	C211-06	Š		N.	٦.	.02	04/09/0411:21	NA	NAD001W-22	NAD001W-19	NAD001W	03/30/04	03/31/04
s1-020	C211-07	Š	,	Ν	-	.02	04/09/0411:22	ΝΑ	NAD001W-23	NAD001W-19	NADOO1W	03/30/04	03/31/04
51-022	C211-08	.118	_	NA NA	-	6	04/09/0411-33	4X	NADO0114-34	NADODÍU-31	NADOUTU	70/02/20	74170



CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04C211

METHOD 415.1 TOC

Seven (7) water samples were received on 03/31/04 for TOC analysis by Method 415.1 in accordance with "Methods for Chemical Analysis of Water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Duplicate

Sample C211-03 was analyzed for duplicate. %RPD was within QC limit.

Matrix Spike

Sample C211-03 was spiked. %Recovery was within QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Project : MF/ Batch No. : 040	ient : TETRA TECH FW, INC. roject : MFA, CTO 71, SITE 1 atch No. : 04C211	10 10 10 10 10 11 11 11 11 11 11	11 11 11 11 11 11 11 11 11 11		 	19 11 11 11 11 11 11 11 11 11	61 19 19 19 19 19 19 19 19 19 19 19 19 19	11 11 11 11 11 11 11 11 11		11 11 11 11 11 11 11	11 11 11 11 11 11 11 11	
SAMPLE ID		RESULTS (mg/L)	DLF MOIS	RL ST (mg/L)	MDL (mg/L)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
31.K10	TCD00248	2	-	44 5		04/12/0410:28	NA NA	TC0012-5	TC0012-2	TCD002W	NA NA	W
LCS1W	TCD002ML	34.4	_	₹ 2	-	04/12/0410:39	¥.	TCD012-6	TCD012-2	TCD002W	ΑN	AN.
30.14	TCD002MC	30.8	-	S	-	04/12/0410:49	NA	TCD012-7	TC0012-2	TCD002W	NA	Ν
1-51-017	C211-02	6.07	-	₹.	-	04/12/0413:36	AN	TCD012-23	TC0012-14	TCD002W	03/59/04	03/31/04
1-51-018	C211-03	12.9	-	₹	-	04/12/0413:46	A.	TCD012-24	TCD012-14	TCD002W	03/29/04	03/31/04
1-S1-0180UP	C211-030	12.9	_	₹ 5	-	04/12/0413:56	NA	TCD012-25	100012-14	TCD002W	03/29/04	03/31/04
1-S1-018MS	C211-03M	35.8	-	Α, S	-	04/12/0414:27	NA	TCD012-28	TCD012-26	TCD002W	03/59/04	03/31/04
1-\$1-023	C211-04 ·	6.48	-	₹ 5		04/12/0414:37	NA	TCD012-29	TCD012-26	TCD002W	03/29/04	03/31/04
1-51-019	C211-06	9.41	-	¥	-	04/12/0414:58	NA	TCD012-31	TCD012-26	TCD002W	03/30/04	03/31/04
1-51-020	C211-07	9.00	<u>-</u>	AA S		04/12/0415:09	٨¥	TCD012-32	TCD012-26	TCD002W	03/30/04	03/31/04
1-\$1-022	C211-08	11.8	_	₹ 5	-	04/12/0415:19	NA	TCD012-33	TC0012-26	TCD002W	03/30/04	03/31/04
3LK2W	TCD004MB	₽	-	₹ 5	-	04/13/0411:36	¥¥	TCD013-5	TCD013-2	TCD004W	AN	N A
CSSW	TCD004ML	39.6	-	₹ 5	-	04/13/0411:47	NA NA	TCD013-6	TCD013-2	TCD004H	¥	N A
CDZW	TCD004MC	39.0	-	₹ 2	τ-	04/13/0411:57	¥.	TCD013-7	TCD013-2	TCD004W	AN	AN
1-51-024	C211-05	5.	2	10	۷	04/13/0412-40	42	TCD013-11	TCD013-2	17000411	70/66/20	13/31/04

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, CTO 71

Collection Date:

March 29 through March 30, 2004

LDC Report Date:

May 5, 2004

Matrix:

Water

Parameters:

Wet Chemistry

Validation Level:

EPA Level III

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04C211

Sample Identification

71-S1-017

71-S1-018

71-S1-023

71-S1-024

71-S1-019

71-S1-020

71-S1-022

71-S1-018MS

71-S1-018DUP

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 353.3 for Nitrate/Nitrite as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

IX. Field Duplicates

Samples 71-S1-019 and 71-S1-020 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

	Concentra	ation (mg/L)	
Analyte	71-S1-019	71-\$1-020	RPD
Total organic carbon	9.41	9.00	4

X. Field Blanks

No field blanks were identified in this SDG.

Moffett Air Field, CTO 71
Wet Chemistry - Data Qualification Summary - SDG 04C211

No Sample Data Qualified in this SDG

Moffett Air Field, CTO 71 Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 04C211

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 71

Collection Date:

March 29 through March 30, 2004

LDC Report Date:

May 5, 2004

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04C211

Sample Identification

71-S1-017

71-S1-018

71-S1-023

71-S1-024

71-S1-019

71-S1-020

71-S1-022

71-S1-017F

71-S1-018F

71-S1-023F

71-S1-024F

71-S1-019F

71-S1-020F

71-S1-022F

71-S1-018MS

71-S1-018MSD

71-S1-018FMS

71-S1-018FMSD

Sample IDs ending in "F" were analyzed for dissolved metals

Introduction

This data review covers 18 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
ІСВ/ССВ	Potassium (20x)	1619 ug/L	71-S1-023 71-S1-024 71-S1-019 71-S1-020 71-S1-022
ICB/CCB	Thallium (10x)	5.40 ug/L	All samples in SDG 04C211

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
71-S1-024	Thallium	0.0629 mg/L	0.0629U mg/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
71-S1-018FMS/MSD (71-S1-017F	Iron	-	68 (75-125)	-	J (all detects) UJ (all non-detects)	A
71-S1-018F 71-S1-023F 71-S1-024F 71-S1-019F	Manganese	69 (75-125)	61 (75-125)	-	J (all detects) UJ (all non-detects)	
71-S1-020F 71-S1-022F)						

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 71-S1-019 and 71-S1-020 and samples 71-S1-019F and 71-S1-020F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

·	Concentra	tion (mg/L)	
Analyte	71-S1-019	71-\$1-020	RPD
Aluminum	1.23	4U	Not calculable
Barium	0.081	0.0748	. 8
Calcium	550	586	6
Iron	3.01	3.15	5
Magnesium	1860	1990	7
Manganese	4.27	4.53	6
Potassium	455	487	7
Sodium	13700	14500	6

	Concentrat	ion (mg/Kg)	
Analyte	_, 71-S1-019F	71-S1-020F	RPD
Barium	0.0818	0.0834	2
Calcium	603	573	5
Iron	3.26	3.16	3
Magnesium	2070	1970	5
Manganese	4.62	4.36	6

	Concentra	tion (mg/Kg)	
Analyte	71-S1-019F	71-S1-020F	RPD
Potassium	500	457	9
Sodium	15400	14600	5

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 71 Metals - Data Qualification Summary - SDG 04C211

SDG	Sample	- Analyte	Flag	A or P	Reason
04C211	71-S1-017F 71-S1-018F 71-S1-023F 71-S1-024F 71-S1-019F 71-S1-020F 71-S1-022F	Iron Manganese •	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Airfield, CTO 71 Metals - Laboratory Blank Data Qualification Summary - SDG 04C211

SDG	Sample	Analyte	Modified Final Concentration	A or P
04C211	71-S1-024	Thallium	0.0629U mg/L	А

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 71

Collection Date:

March 29, 2004

LDC Report Date:

May 7, 2004

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04C211

Sample Identification

71-S1-017

71-S1-018

71-S1-023

71-S1-024

71-S1-019

71-S1-020

71-S1-022

71-S1-018MS

71-S1-018MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 71-S1-019 and 71-S1-020 were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 71
Polychlorinated Biphenyls - Data Qualification Summary - SDG 04C211

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 71
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 04C211

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 71

Collection Date:

March 29, 2004

LDC Report Date:

May 10, 2004

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04C211

Sample Identification

71-S1-017

71-S1-018

71-S1-023

71-S1-024

71-S1-019

71-S1-020

71-S1-022

71-S1-018MS

71-S1-018MSD

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
4/2/04	SD02004A	RTX-CLPEST	Heptachlor 4,4'-DDD 4,4'-DDT Methoxychlor Endrin ketone	17 17 31 33 16	All samples in SDG 04C211	J (all detects) UJ (all non-detects)	А
4/2/04	SD02004A	RTX-CLPESTII,	delta-BHC 4,4'-DDT Methoxychlor	18 17 17	All samples in SDG 04C211	J (all detects) UJ (all non-detects)	А

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

The individual 4,4'-DDT and Endrin breakdowns were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P	
71-\$1-024	Channel A	Tetrachloro-m-xylene	182 (20-145)	All TCL compounds	J (all detects)	Р	

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40.0% relative percent differences (RPD) with the following exceptions:

Sample	Compound	%RPD	Flag	A or P		
71-S1-024	alpha-BHC	99	J (all detects)	А		

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 71-S1-019 and 71-S1-020 were identified as field duplicates. No chlorinated pesticides were detected in any of the samples with the following exceptions:

	Concentr				
Compound	71-S1-019	71-\$1-020	RPD		
Heptachlor	0.013	0.047U	Not calculable		

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 71 Chlorinated Pesticides - Data Qualification Summary - SDG 04C211

SDG	Sample	Compound	Flag	A or P	Reason
04C211	71-S1-017 71-S1-018 71-S1-023 71-S1-024 71-S1-019 71-S1-020 71-S1-022	Heptachlor 4,4'-DDD 4,4'-DDT Methoxychlor Endrin ketone delta-BHC	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
04C211	71-S1-024	All TCL compounds	J (all detects)	Р	Surrogate spikes (%R)
04C211	71-S1-024	alpha-BHC	J (all detects)	A	Compound quantitation and CRQLs (%D)

Moffett Airfield, CTO 71 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 04C211

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, CTO 71

Collection Date:

March 29 through March 30, 2004

LDC Report Date:

May 10, 2004

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04C211

Sample Identification

71-S1-030

71-S1-017

71-S1-018

71-S1-023

71-S1-024

71-S1-019

71-S1-020

71-S1-022

71-S1-018MS

71-S1-018MSD

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

For selected compounds the mean percent relative standard deviation (%RSD) was less than or equal to 15.0% and less than or equal to 30.0% for individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
4/1/04	Carbon disulfide	27.4	All samples in SDG 04C211	J (all detects) UJ (all non-detects)	A

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Surrogate	%R (Limits)	Compound	Flag	A or P
71-S1-017	1,2-Dichloroethane-d4	126 (75-125)	All TCL compounds	J (all detects)	Р
71-\$1-019	1,2-Dichloroethane-d4	126 (75-125)	All TCL compounds	J (all detects)	Р
71-\$1-020	1,2-Dichloroethane-d4	128 (75-125)	All TCL compounds	J (all detects)	P
71-S1-022	1,2-Dichloroethane-d4	127 (75-125)	All TCL compounds	J (all detects)	Р

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

All tentatively identified compounds were within validation criteria.

XIV. System Performance

The system performance was within validation criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 71-S1-019 and 71-S1-020 were identified as field duplicates. No volatiles were detected in any of the samples.

XVII. Field Blanks

Sample 71-S1-030 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Air Field, CTO 71 Volatiles - Data Qualification Summary - SDG 04C211

SDG	Sample	Compound	Flag	A or P	Reason
04C211	71-S1-030 71-S1-017 71-S1-018 71-S1-023 71-S1-024 71-S1-019 71-S1-020 71-S1-022	Carbon disulfide	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
04C211	71-S1-017 71-S1-019 71-S1-020 71-S1-022	All TCL compounds	J (all detects)	Р	Surrogate spikes (%R)

Moffett Air Field, CTO 71 Volatiles - Laboratory Blank Data Qualification Summary - SDG 04C211

No Sample Data Qualified in this SDG

NUMBER 04823

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	-	PURCHASE ORD	ER NO.	· ·	-	. 1			AN	TAT #	VCT	e m	EQU	IDE	T)	i.	LABO	RATORY	NAME			TI T			<u> </u>		
PROJECT NAME CTO 71, SITE, PROJECT LOCATION MOFFET T SAMPLER NAME	2 QTR	2084 PROJECT NO. 1990	8-TA	SK.	21		()	126937		Pares.	Description of the	S K		X X	<u></u>		Prez 201200	M				P	Do no	Secti ot su	lon bmi	t to	
BIL OF LE PROJECT CONTAGE LISA BIENKOWS	Kl	ARBILL NUMBE 8406		10	10		Stap (VC	SACES	03 / Br A			to King A	2000	7.60.00			(KOR)	MION MIOIM	KOPAYA	01/C)		La 	bora	atory	<i>!</i>	
SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVEL	- ,	Ť A T	Chase	422	CONORY					2200				C	OMMI	ENTS		ı	OCATIO	N		PTH END	¢ς
71-51-031	3-2-04	/330	3	λ	$[\omega]$		X	d		a	4	,										TR	ir B	X.Ay	<u></u>		TB
71-51-025	3-30-01	1405	10	X	W		X	X	X	X	\setminus		abla									W	1-5	····	, market	442	36
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1835 W. 205th Street Torrance, CA-90501

Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 04-27-2004

EMAX Batch No.: 04D010

Attn: Lisa Bienkowski

Tetra Tech FW, Inc.

1940 E Deere Ave, Suite 200

Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, CTO 71, Site 1

Enclosed is the Laboratory report for samples received on 04/01/04. The data reported include:

Sample ID	Control #	Col Date	Matrix	Analysis
71-S1-031 71-S1-025	D010-01 D010-02			VOLATILE ORGANICS BY GC/MS VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N
71-S1-026	D010-03	03/30/04	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N

Sample ID	Control #		Matrix	Analysis
71-\$1-027	D010-04		WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N
71-s1-028	D010-05	03/31/04	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N
71-s1-029	D010-06	03/31/04	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS) METALS BY ICP MERCURY METALS DISSOLVED BY ICP MERCURY DISSOLVED TOTAL ORGANIC CARBON NITRATE/NITRITE-N

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04D010

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Six (6) water samples were received on 04/01/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd edition.

1. Holding Time

Samples D010-02 to -04 which were labeled as acid preserved but with pH=7, were analyzed couple of hours beyond the 7-days holding time for non-preserved samples.

2. Tuning and Calibration

Tuning and calibration were carried out at 12 hours interval. All QC requirements were met.

3. Method Blank

Method blanks were free of contamination at the reporting limit.

4. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

5. Surrogate Recovery

Recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All requirements were met with the aforementioned exception.

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 040010 Sample ID: 71-S1-031 Lab Samp ID: D010-01 Lab File ID: RDB087 Ext Btch ID: V003D07 Calib. Ref.: RCB248	Date Diluti Matrix % Mois	on Factor: 1 : W :ture : N/	3/30/04 4/01/04 4/06/04 22:26 4/06/04 22:26 ATER A 003
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,2-S-TRICHLOROBRIZENE 1,2-S-TRICHLOROBRIZENE 1,2-S-TRICHLOROBRIZENE 1,2-DICHLOROBRIZENE 1,2-DICHLOROBRIZENE 1,2-DICHLOROBRIZENE 1,2-DICHLOROBRIZENE 1,2-DICHLOROBRIZENE 1,2-DICHLOROBRIZENE 1,2-DICHLOROBRIZENE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2-BUTANDNE 2-GHOROTOLUENE 2-HEXANONE 2-GHOROTOLUENE 2-HEXANONE BENZENE BROMOBRIZENE BROMOBRIZENE BROMOBRIZENE BROMOBRIZENE BROMOBRIZENE BROMOBRIZENE BROMOBRIZENE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROFORM ROMOMETHANE CHLOROFORM CHLOROBRIZENE DIBROMOMETHANE DICHLOROBRIZENE DIBROMOMETHANE DICHLOROBRIZENE DIBROMOMETHANE DICHLOROBRIZENE DIBROMOMETHANE DICHLOROBRIZENE N-BUTYLBENZENE N-P-YYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE TERT-BUTYLBENZENE	RESULTS (JU) - NO NO NO NO NO NO NO NO NO NO NO NO NO	RL) - դեղ -	### เกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเกาะการเ
1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blad J : Value between R.L. and MDL D : Value from dilution analysis D.D : Diluted out	108 103 100	63-132 75-122 73-129	

Anor

PARAMETERS	Client : TETRA TECH FW, INC. Project : MFA CTO 71, SITE 1 Batch No. : 040010 Sample ID: 71-S1-025 Lab Samp ID: D010-02 Lab File ID: RDB092 Ext Btch ID: V003007 Calib. Ref.: RCB248	Matri % Moi	x : sture :	03/30/04 04/01/04 04/01/04 04/07/04 01:41 04/07/04 01:41 MATER NA T-003
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blank J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out	1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE CHLORODIHANE CHLORODIHANE CHLORODIHANE CHLOROPROPANE DIBROMOMETHANE DIBRO	9/12 Y	້.	() . . . ก่านน่านกับกับกับกับกับกับกับกับกับกับกับกับกับก

/5/17/64

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 040010 Sample ID: 71-S1-026 Lab Samp ID: D010-03 Lab File ID: RD8093 Ext Btch ID: V003D07	Matrix : WAT % Moisture : NA	
Sample ID: 71-S1-026 Lab Samp ID: D010-03 Lab File ID: RDB093 Ext Btch ID: VO03D07 Calib. Ref: RCB248	######################################	ER
BROMOFLUOROBENZENE R.L.: Reporting limit *: Out of QC E: Exceeded calibration range	100 75-122 97 73-129	

E Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out

KINIST

lient : TETRA TECH FW, INC. roject : MFA, CTO 71, SITE 1 atch No. : 04D010 ample ID: 71-S1-027 ab Samp ID: D010-04 ab File ID: RDBU94	Date Date Date Diluti Matrix	ion Factor:	04/07/04 04/07/04 04/07/04 02:5
xt Btch ID: V003D07 alib. Ref.: RCB248	Matrix % Mois Instru	ture : ment ID :	WATER NA T-003
======================================	RESULTS (ug/L)	RL (ug/L)	MD (ug/L
,1,1,2-TETRACHLOROETHANE ,1,1-TRICHLOROETHANE	LN DN		
,1,1-TRICHLOROETHANE ,1,2,2-TETRACHLOROETHANE	ND ND	.5	
11.2.2-TETRACHLOROETHANE 11.2-TEICHLOROETHANE 11-DICHLOROETHANE 11-DICHLOROETHENE 11-DICHLOROPROPENE 2.3-TEICHLOROBENZENE 2.3-TEICHLOROBENZENE 2.4-TEICHLOROBENZENE 2.4-TEICHLOROBENZENE 2.4-TEICHLOROPROPANE 2.0-DIBROMO-3-CHLOROPROPANE 2-DICHLOROBENZENE 2-DICHLOROBENZENE 2-DICHLOROBENZENE 2-DICHLOROBENZENE 2-DICHLOROBENZENE 2-DICHLOROBENZENE	ND ND	.5	:
,1-DICHLOROETHENE ,1-DICHLOROPROPENE	ND ND	:≩	:
,2,3-TRICHLOROBENZENE ,2,3-TRICHLOROPROPANE	ND ND	.5	
,2,4-TRICHLOROBENZENE ,2,4-TRIMETHYLBENZENE	ND ND	.5	
,2-DIBROMO-3-CHLOROPROPANE ,2-DICHLOROBENZENE	ND ND	.5	
,2-DICHLOROETHANE ,2-DICHLOROPROPANE	ND ND	.5	-
,2-ETHYLENED IBROMIDE ,3-TRIMETHYLBENZENE ,3-DICHLOROBENZENE ,3-DICHLOROPROPANE	ND ND	:5	•
3-DICHLOROBENZENE 3-DICHLOROPROPANE	ND ND	.5	
.2-DICHLOROBERZENE	ND ND	.5	. •
-BUTANONE -CHLOROTOLUENE	ND ND ND	10 •5	
- HEXANONE - CHLOROTOLUENE	ND ND	10 .5	
-METHYL-2-PENTANONE CETONE	ND ND	10 10	•
FN7FNF	ND ND	.5	
ROMOBENZENE ROMOCHLOROMETHANE ROMODICHLOROMETHANE ROMOFORM	ND ND	.5 .5	:
ROMOFORM ROMOMETHANE	ND ND	.5 1	
ARBON DISULFIDE ARBON TETRACHLORIDE	ND ND	.5 .5	•
HLOROBENZENE HLOROETHANE	ND ND	. <u>5</u>	•
HI OROFORM	ND ND	.5 1	-
HLOROMETHANE IS-1,2-DICHLOROETHENE IS-1,3-DICHLOROPROPENE	ND ND	.5 .5	
IBROMOCHLOROMETHANE IBROMOMETHANE	ND ND	.5 .5	
ICHLORODIFLUOROMETHANE THYLBENZENE	ND ND	.5	:
EXACHLOROBUTADIENE SOPROPYL BENZENE	ND ND	.5 .5	
/P-XYLENES	,ND ,ND	1 2	-
ETHYLENE CHLORIDE -BUTYLBENZENE -PROPYLBENZENE	ND ND	.5 .5	•
APHTHALENE	ND ND	.5 .5	:
- TILENE - TSOPROPYLTOLUENE EC-BUTYLBENZENE TYRENE - TYRENE	ND ND	.5 .5	-
TYRENE EDT-BUTY BENZENE	ND ND	.5 .5	•
ERT-BUTYLBENZENE ETRACHLOROETHYLENE OLUENE	ND ND	.5	
RANS-1, 2-DICHLOROETHENE RANS-1, 3-DICHLOROPROPENE RICHLOROETHENE	ND ND	ນໍຜ່-ຜ່ານໍຜ່ນໍຜ່ານໍຈາກໍນໍາລໍາລໍາລັດເວັດສົວລີດັນຄົນຄົນຈະຕ່ານຈະການໍາລັດເລັດຄົນຄົນຄົນຄົນຄົນຄົນຄົນຄົນຄົນຄົນຄົນຄົນຄົນຄ	:
RICHLOROFTHENE RICHLOROFLUOROMETHANE	ND ND	.5	•
INYL CHLORIDE CRYLONITRILE	ND V	j 10	
URROGATE PARAMETERS	% RECOVERY	QC LIMIT	
,2-DICHLOROETHANE-D4	116	63-132	
ÖLUENE-D8 ROMOFLUOROBENZENE	99 94	75 - 122 73 - 129	

E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out

15/17/14

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No.: 040010 Sample ID: 71-S1-028 Lab Samp ID: D010-05 Lab File ID: RDB095 Ext Btch ID: V003D07 Calib. Ref.: RCB248	Date Dilution Matrix % Moist	n Factor:	3/31/04 4/01/04 4/07/04 03:37 4/07/04 03:37 ATER -003
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPOPENE 1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROPROPANE 1,2,4-TRICHLOROPROPANE 1,2,4-TRIMETHYLBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-TRIMETHYLBENZENE 1,3-DICHLOROPROPANE 1,2-TRIMETHYLBENZENE 1,3-DICHLOROPROPANE 1,3-DICHLORO	RESULTS (197L)	RL) : 55.155.555555555555555555555555555555	ML: MEL: COMPORTATION AND AND AND AND AND AND AND AND AND AN
4-METHYL-2-PENTANONE ACETONE BENZENE BENZENE BROMODENZENE BROMODENZENE BROMODENZENE BROMODENZENE CARBON DISULFIDE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROGETHANE CHLOROBENZENE CHLOROFORM CHLOROMETHANE CHLOROMETHANE CHLOROMETHANE CIS-1,2-DICHLOROPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE BIBROMOCHLOROMETHANE ETHYLBENZENE HEXACHLOROBITADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE STYRENE TETRACHLOROBITADIENE TETRACHLOROBITADIENE TETRACHLOROBITADIENE TETRACHLOROBITADIENE TETRACHLOROBITADIENE TETRACHLOROBITADIENE TETRACHLOROFILOROPROPENE TRANS-1,2-DICHLOROPROPENE TRICHLOROFILOROMETHANE VINYL CHLORIDE ACRYLONITRILE SURROGATE PARAMETERS 1,2-DICHLOROBENZENE VINYL CHLORIDE ACRYLONITRILE SURROGATE PARAMETERS 1,2-DICHLOROBENZENE T.2-DICHLOROBENZENE STREENE TRICHLOROFILOROMETHANE VINYL CHLORIDE ACRYLONITRILE SURROGATE PARAMETERS 1,2-DICHLOROBENZENE	ND WJ ND ND ND ND ND ND ND ND ND ND ND ND ND N	-5.5.5.1-5.5.5.5.5.5.5.5.5.5.5.5.5.5.5.5	กรับกระที่สามารถหาดีสามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถายสามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถสามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถกระที่สามารถสาม
R.L.: Reporting limit * : Out of QC Exceeded calibration range			

* : Out of QC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out

PARAMETERS	Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 040010 Sample ID: 71-S1-029 Lab Samp ID: D010-06 Lab File ID: RDB109 Ext Btch ID: V003D09 Calib. Ref.: RCB248	Matri: % Moi: Instri	sture : NA ument ID : T-O(ER
CHLOROFTHANE CHLOROFORM ND CHLOROMETHANE CHL	1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1.2-TRICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROPROPENE 1.2-TRICHLOROBENZENE 1.2-TRICHLOROBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROPROPANE 1.2-ETHYLENEDIBROMIDE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 2.BUTANONE 2.CHLOROTOLUENE 2.BUTANONE 2.CHLOROTOLUENE 2.HEXANONE 4.CHLOROTOLUENE 2.HEXANONE 4.CHLOROTOLUENE 2.HEXANONE 4.CHLOROTOLUENE 2.HEXANONE 4.CHLOROFORM BROMOBENZENE BROMOGHLOROMETHANE BROMOGHLOROMETHANE BROMOFORM BROMOMETHANE CARBON OISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROBENZENE CHLOROFORM CHLOROMETHANE CHLOROFORM CHLOROMETHANE CIS-1,2-DICHLOROPROPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHOROME DIBROMOCHLOROMETHOROME DIBROMOCHLOROMETHO	99/L) 	G : 35-	() - - - - - - - - - - - - -

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CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04D010

SW3520C/8081A PESTICIDES

Five (5) water samples were received on 04/01/04 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%. Endrin and DDT breakdown were within QC limits.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All QC criteria were met.



=======================================	######################################
Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
Batch No. : 04D010	- Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-025	Date Analyzed: 04/02/04 21:05
Lab Samp ID: D010-02	Dilution Factor: .94
Lab File ID: SD02022A	Matrîx : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02003A	Instrument ID : GCT008

	RESULTS	RL, MDL	
PARAMETERS	(ug/L)	(ug/L) (ug/L)	
ALPHA-BHC	.059 (ND)	.047 .0094 .0094	
GAMMA-BHC (LINDANE)	O11J (ND)	.047 .0094 .0094	
BETA-BHC	(-0291) 4.2	.047 .0094 .0094	
HEPTACHLOR	LITIND) ND	.047 .0094 .0094	
DELTA-BHC	(A) -019J	.047 .0094 .0094	
ALDRIN	(ND) .012J	.047 .0094 .0094	
HEPTACHLOR EPOXIDE	(ND) -11	.047 .0094 .0094	
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094	
ALPHA-CHLORDANE	(ND) ND	047 0094 0094	ŀ
ENDOSULFAN I	(ND) ND	.047 .028 .028	
4,4'-DDE	(ND) ND	.094 .028 .028	
DIELDRIN	(ND) ND	.094 .019 .019	
ENDRIN	(ND) ND	.094 .019 .019	
4,4'-DDD	LJ(ND) ND	.094 .028 .028	
ENDOSULFAN II .	(ND) ND	.094 .019 .019	
4,41-DDT	MI (DNITA	.094 .019 .019	
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019	
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019	
ENDRIN KETONE	UJ (ND) ND	.094 .019 .019	
METHOXYCHLOR	AT(ND) ND	.47 .094 .094	
TOXAPHENE	(ND) ND	2.8 1.2 1.2	
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	100 (109)	20-145	
DECACHLOROBIPHENYL	76 (82)	20-165	

RL : Reporting limit Left of \mid is related to first column ; Right of \mid related to second column () included the reported column

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Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
Batch No. : 04D010	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-026	Date Analyzed: 04/02/04 21:30
Lab Samp ID: D010-03	Dilution Factor: -94
Lab File ID: SD02023A	Matrix : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02003A	Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
	-,		
ALPHA-BHC	(ND) ND	.047	•
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) .035J	.047	.0094 .0094
HEPTACHLOR	-018J (ND) (人)	.047	
DELTA-BHC	.015J (ND)	_047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	.047	.028 .028
4.4'-DDE	(ND) ND	.094	.028 .028
DIELDRIN	(ND) ND	.094	
ENDRIN .	(ND) ND	.094	-019 -019
4,4'-DDD	MCND) ND	.094	.028 .028
ENDOSULFAN II	ND) ND	.094	.019 .019
4,41-DDT	LAT(ND) ND	.094	•
ENDRIN ALDEHYDE	(ND) ND	.094	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.094	.019 .019
ENDRIN KETONE	COD) DO	.094	.019].019
METHOXYCHLOR	(ND) ND	-47	.094 .094
TOXAPHENE	(ND) ND	2.8	1.2 1.2
toyen helle	•		
SURROGATE PARAMETERS	% RECOVERY	QÇ LIMIT	
SORREST THE TAXABLE TO			
TETRACHLORO-M-XYLENE	88 (93)	20-145	i
DECACHLOROBIPHENYL	77 (83)	20-165	; ·





Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
Batch No. : 04D010	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-027	Date Analyzed: 04/02/04 21:55
Lab Samp ID: D010-04	Dilution Factor: .94
Lab File ID: SD02024A	Matrix : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02003A	Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
			
ALPHA-BHC	(ND) ND	.047	.0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) .028J	.047	.0094 .0094
HEPTACHLOR	.027J (ND) (L)	.047	.0094 .0094
DELTA-BHC	.012J (ND) LL	.047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	_047	.028 .028
4.4'-DDE	(ND) ND	- 09 4	.028 .028
DIELDRIN	(ND) ND	.094	.019].019
ENDRIN	(ND) ND	-094	-019 -019
4.4'-DDD	U ((ND) ND	.094	.028].028
ENDOSULFAN II	(ND) ND	.094	.019 .019
4,4'-DDT	[/_](ND) ND	.094	.019 .019
ENDRIN ALDEHYDE	(ND) ND	.094	.019].019
ENDOSULFAN SULFATE	(ND) ND	.094	.019 .019
ENDRIN KETONE	W(ND) ND	.094	.019 .019
METHOXYCHLOR	UJ(ND) ND	.47	.094 .094
TOXAPHENE	(ND) ND	2.8	1.2 1.2
10/46 112112	• • •		
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
	0014073	20-145	
TETRACHLORO-M-XYLENE	89 (93)		
DECACHLOROBIPHENYL	77 (81)	20-165	



	:======================================
Client : TETRA TECH FW, INC.	Date Collected: 03/31/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
Batch No. : 04D010	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-028	Date Analyzed: 04/02/04 22:21
Lab Samp ID: D010-05	Dilution Factor: _94
Lab File ID: SD02025A	Matrix : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02003A	Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .037J	.047 .0094 .0094
HEPTACHLOR	L) (CBN) L150.	.047 .0094 .0094
DELTA-BHC	LU(DI) (016)	.047 .0094 .0094
ALDRIN	(ND) ND U.	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.094 .019 .019
ENDRIN .	(ND) ND	.094 .019 .019
4,4'-DDD	(C)(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,44-DDT	LL ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(L)(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	92 (94)	20-145
DECACH ODOB I DRENAI	77 (82)	20-165

DECACHLOROBIPHENYL 77 (82)

RL : Reporting limit Left of $\frac{1}{2}$ is related to first column ; Right of $\frac{1}{2}$ related to second column () included the reported column



Date Collected: 03/31/04 Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Date Received: 04/01/04 Batch No. : 04D010 Sample ID: 71-S1-029 Lab Samp ID: D010-06 Date Extracted: 04/01/04 17:00 Date Analyzed: 04/02/04 22:46 Dilution Factor: .94 WATER Lab File ID: SD02026A Matrix ; NA % Moisture Ext Btch ID: CPD002W Instrument ID : GCT008 Calib. Ref.: SD02003A

•	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
••••			
ALPHA-BHC	.11 (.018J) . [.047	.0094 .0094
GAMMA-BHC (LINDANE)	.04J (ND)	.047	.0094 .0094
BETA-BHC	J (.047J) .4	.047	.0094 .0094
HEPTACHLOR	065 (ND) (J	.047	.0094 .0094
DELTA-BHC	J (.03J) .01J	.047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) j_029J	.047	.0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	.047	.028 .028
4.4'-DDE	(ND) ND	.094	.028 .028
DIELDRIN	(ND) ND	.094	.019 .019
ENDRIN	(ND) ND	.094	.019 .019
4.4'-DDD	/A T (ND) ND	. 094	.028 .028
ENDOSULFAN II	(ND) ND	- 094	.019 .019
4,41-DDT	.048J (ND) [/]	.094	.019 .019
ENDRIN ALDEHYDE	(ND) ND	.094	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.094	.019 .019
ENDRIN KETONE	(LKND) ND	.094	.019 .019
METHOXYCHLOR	(Ž ((ND) ND	.47	.094[.094
TOXAPHENE	(ND) ND	2.8	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
SURROUNTE FARACETERS			
TETRACHLORO-M-XYLENE	101 (109)	20-145	
DECACHLOROBIPHENYL	75 (81)	20-165	





CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04D010

SW3520C/8082 PCBs

Five (5) water samples were received on 04/01/04 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was five-point for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12 hour interval and all recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All QC criteria were met.

sw3520c/8082 PCBs

=======================================		
Client : TETRA TECH FW, INC.		Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	1.0	Date Received: 04/01/04
Batch No. : 04D010	- ,	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-025		Date Analyzed: 04/02/04 21:05
Lab Samp ID: D010-02		Dilution Factor: .94
Lab File ID: SD02022A		Matrix : WATER
Ext 8tch ID: CPD002W		% Moisture : NA
Calib. Ref.: SD02006A		Instrument ID : GCT008
=======================================	==========	
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/l) (ug/l)
••••		
PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.94 .24 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	1.9 .24 .24
PCB-1248	(ND) ND .	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 -24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(110) 101	20-145
DECACHLOROB I PHENYL	(103) 106	20-165



SW3520C/8082 PC8s

Client : TETRA TECH FW, INC.		Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1		Date Received: 04/01/04
Batch No. : 04D010		Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-026		Date Analyzed: 04/02/04 21:30
Lab Samp ID: D010-03		Dilution Factor: .94
Lab File ID: SD02023A		Matrix : WATER
Ext Btch ID: CPD002W		% Moisture : NA
Calib. Ref.: SD02006A		Instrument ID : GCT008
Catto. Ref.: Spocoock		
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)

PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.94 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	1.9 .24 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
PCB- 1200	(HD) HD	•211
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(73) 89	20-145
DECACHLOROBIPHENYL	(104) 107	20-165
	* * 1	





sW3520C/8082 PCBs

Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
Batch No. : 04D010	Date Extracted: 04/01/04 17:00
Sample ID: 71-S1-027	Date Analyzed: 04/02/04 21:55
Lab Samp ID: D010-04	Dilution Factor: .94
Lab File ID: SD02024A	Matrix : WATER
Ext Btch ID: CPD002W	% Moisture : NA
Calib. Ref.: SD02006A	Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	·(ug/L)
PCB-1016	(ND) ND	-94	.24 .24
PCB-1221	(ND) ND	-94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	1.9	.24].24
PCB-1248	(ND) ND	-94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(75) 85	20-145	
DECACHLOROBIPHENYL	(103) 104	20-165	



sw3520C/8082 PCBs

	======================================	=======================================	==========
Client : TETRA TECH FW, IN	С.	Date Collected:	
Project : MFA, CTO 71, SITE	: 1	Date Received:	
Batch No. : 04D010	-	. Date Extracted:	04/01/04 17:00
Sample ID: 71-S1-028		Date Analyzed:	04/02/04 22:21
Lab Samp ID: D010-05	•	Dilution Factor:	.94
Lab File ID: SD02025A		Matrix :	WATER
Ext Btch ID: CPD002W		% Moisture :	NA
Calib. Ref.: SD02006A		Instrument ID :	GCT008
	==========		•
,	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	. 9 4	.24 -24
4070	4110.3 1110	0/.	26 26

	•		
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	-94	.24 -24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	1.9	.24 .24
PCB-1248	(ND) ND .	-94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	-94	.24].24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(76) 85	20-145	
DECACHLOROBIPHENYL	(100) 106	20-165	





SW3520C/8082 PCBs

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Client : TETRA TECH FW, IN		Date Collected:	
Project : MFA, CTO 71, SITE	1	Date Received:	
Batch No. : 04D010	•	Date Extracted:	
Sample ID: 71-S1-029		Date Analyzed:	04/02/04 22:46
Lab Samp ID: D010-06	•	Dilution Factor:	.94
Lab File ID: SD02026A	•	Matrix :	WATER
Ext Stch ID: CPD002W		% Moisture :	
Calib. Ref.: SD02006A		Instrument ID :	GCT008
=======================================	======================================	=======================================	=========
*	RESULTS	RL	
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
	*****	*****	
PCB-1016	(ND) ND	.94	!
PCB-1221	(ND) ND	.94	•
PCB-1232	(ND) ND	.94	•
PCB-1242	(ND) ND	1.9	•
PCB-1248	(ND) ND .	.94	•
PCB-1254	(ND) ND	.94	
PC8-1260	(ND) ND	.94	.24[.24
SURROGATE PARAMETERS	% RECOVERY	QC LIMI	т
			-
TETRACHLORO-M-XYLENÉ	(86) 197	20-14	5 .
DECACHLOROBIPHENYL	(102) 104	20-16	5
	•		

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit



CASE NARRATIVE

CLIENT:

TETRA TECH FW. INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04D010

METHOD 3010A/6010B TOTAL AND DISSOLVED METALS BY ICP

Five (5) water samples were received on 04/01/04 for Total and Dissolved Metals analyses by Method 3010A/6010B in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample D010-02 (Total and Dissolved) were analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample D010-02 (Total and Dissolved) were spiked. All recoveries were within QC limit except Mg and Na in MS/MSD of D010-02 (Total) and Ca, Mg, K and Na in D010-02 (Dissolved) were out the limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

Samples were analyzed at DF20 for regular ICP runs and at DF10 for Trace-ICP runs due to matrix interference from high concentration level of Sodium.

METHOD 3010A/6010B METALS BY ICP

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 040010 Sample ID: 71-S1-025 Lab Samp ID: 0010-02 Lab File ID: 1070022024 Ext Btch ID: 190010W Calib. Ref.: 1070022020	Matrix % Mois	Analyzed: 0 ion Factor: 2 k : W sture : N	4/01/04 4/05/04 10:30 4/14/04 11:38 0 ATER
\$24Q\$U	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
			1.2
Aluminum Antimony	2.61J ND	4	1.2
Ancimony Barium	.491	.2 .2	.04
Bervilium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	408	20	2
Chromium	ND ND	.4	.1
Cobalt	ND 'ND	.4 .2	.1
Copper Iron	1.65J	20	.6
Magnesium	1690	20	2
Manganese	1.91J	2	.06
Nickel	ND	.4	.2
Potassium	352	100	20
Silver Sodium	ND 12400	.4 20	.1
Socium Vanadium	12400 ND	.2	.1
Zinc	ND	.4	.1

RL: Reporting Limit

SV



METHOD 3010A/6010B METALS BY TRACE ICP

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04D010 Sample ID: 71-S1-025 Lab Samp ID: D010-02 Lab File ID: I31D053024 Ext Btch ID: IPD010W Calib. Ref.: I31D053020	Date Collected: 03/30/04 Date Received: 04/01/04 Date Extracted: 04/05/04 10:30 Date Analyzed: 04/26/04 19:59 Dilution Factor: 10 Matrix : WATER % Moisture : NA Instrument ID : EMAXTI31
PARAMETERS	RESULTS RL MDL (mg/L) (mg/L) (mg/L)

PARAMETERS	RESULTS	RL	MDL
	(mg/L)	(mg/L)	(mg/L)
Arsenic Lead Selenium Thallium	ND ND NO NO	.1 .1 .1	.04 .02 .05

RL: Reporting Limit

5/

METHOD 3010A/6010B METALS BY ICP

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04DDI0 Sample ID: 71-S1-026 Lab Samp ID: D010-03 Lab File ID: 107D022029 Ext Btch ID: IPD010W Calib, Ref.: 107D022020	Date Date Dilut Matrix % Mois	Analyzed: ion Factor: k sture :	04/01/04 04/05/04 10:30 04/14/04 12:03 20 WATER
PARAMETERS Aluminum Antimony	RESULTS (mg/L) ND ND	RL (mg/L) 4 2	MDL (mg/L) 1.2



METHOD 3010A/6010B METALS BY TRACE ICP

Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
SDG NO. : 04D010	Date Extracted: 04/05/04 10:30
Sample ID: 71-S1-026	- Date Analyzed: 04/26/04 20:2:
Lab Samp ID: D010-03	Dilution Factor: 10
Lab File ID: 1310053029	Matrix : WATER
Ext Btch ID: IPD010W	% Moisture : NA
Calib. Ref.: I31D053020	Instrument ID : EMAXTI31

PARAMETERS	RESUL (mg/		MDL (mg/L)
Arsenic	ND	.1	.04
Lead	ND	.1	.02
Selenium	ND	.1	.05
Thallium	ND	.1	.05

RL: Reporting Limit

SM

METHOD 3010A/6010B METALS BY ICP

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04D010 Sample ID: 71-S1-027 Lab Samp ID: 0010-04 Lab File ID: 107D022030 Ext Btch ID: IPD010W Calib. Ref.: I07D022020	Date Date Date Dilut Matrix % Mois	Analyzed: 04/ ion Factor: 20 : WAT sture : NA	/01/04 /05/04 10:30 /14/04 12:07
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL
	(mg/L)	(Mg/L)	(mg/L)
Aluminum	ND	4	1.2
Antimony	ND	2	.8
Barium Barul Ida	.111J	.2 .2	.04
Beryllium Cadmium	ND	.2	.02
Calcium	· ND	.2	.04
Chromium	434 ND	20	2
Cobalt	ND ND	.4 .4	.1
Copper	ND	.2	.1
ron	.682J	20	
agnesium	1560	20 -	.6 2
langanese lickel	1.05J	. 2	.06
otassium	ND	.4	.2
ilver	375 ND	100	20
odium .	12200	.4 20	.1
anadium	ND	.2	.5 .1
inc	ND	.4	.1

RL: Reporting Limit

SIN

METHOD 3010A/6010B METALS BY TRACE ICP

Client : TETRA TECH FW. INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 040010 Sample ID: 71-S1-027 Lab Samp ID: D010-04 Lab File ID: I31D053030 Ext Btch ID: IPD010W Calib. Ref.: I31D053020	0 71. SITE 1 Date Rece Date Extra Date Analy Dilution Fac Matrix		/01/04 /05/04 10:30 /26/04 20:32 FER
PARAMETERS	RESULTS (mg/L) ND ND	RL (mg/L) 1	MDL (mg/L) .04
Selenium Thallium	ND ND	.1 .1	.02 .05 .05

RL: Reporting Limit

SIN

METHOD 3010A/6010B METALS BY ICP

Client : TETRA TECH FW. INC. Project : MFA. CTO 71. SITE 1 SDG NO. : 04DD10 Sample ID: 71-S1-028 Lab Samp ID: D010-05 Lab File ID: I07D022031 Ext Btch ID: IPD010W Calib. Ref.: I07D022020	Matri % Moi	Analyzed: ion Factor: x : sture :	04/01/04 04/05/04 10:30 04/14/04 12:11
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
munimufA	ND	4	1.2
Antimony Barium	ND	2	.8
Beryllium	.208	.2	04
Cadmium	ND . ND	.2	.02
Calcium.	ND 364	.2	-04
Chromium	ND	20 .4	2
Cobalt	ND	.4	.1 .1
Copper	ND	.2	.1
Iron Magnesium	15.6J	20	.6
Manganese	1530	20	2
Nickel	2.05	. 2	.06
Potassium	ND 406	.4	.2
Silver	ND	100 .4	20
Sodium	12200	. 20	.1 .5
Vanadium	ND	.2	.5
Zinc	ND	.4	.1 .1

RL: Reporting Limit

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METHOD 3010A/6010B METALS BY TRACE ICP

Client : TETRA TECH FW. INC. Project : MFA. CTO 71, SITE 1 SDG NO. : 04D010 Sample ID: 71-S1-028 Lab Samp ID: D010-05 Lab File ID: I31D053031 Ext Btch ID: IPD010W Calib. Ref.: I31D053020	Date Collected: 03/31/04 Date Received: 04/01/04 Date Extracted: 04/05/04 10:31 Date Analyzed: 04/26/04 20:33 Dilution Factor: 10 Matrix : WATER % Moisture : NA Instrument ID : EMAXTI31		
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDŁ (mg/L)
Arsenic Lead Selenium Thallium	ND ND ND 0566J	.1 .1 .1	.04 .02 .05
RL: Reporting Limit	.0566J V	.1	•

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METHOD 3010A/6010B METALS BY ICP

Client : TETRA TECH FW. INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 040010 Sample ID: 71-S1-029 Lab Samp ID: D010-06 Lab File ID: 107D022034 Ext Btch ID: IPD010W Calib. Ref.: 107D022032	Matri. * Moi	Extracted: 04 Analyzed: 04 ion Factor: 20 x : WA sture : NA	/01/04 /05/04 10:30 /14/04 12:27
PARAMETERS Aluminum Antimony Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Magnesium Manganese Nickel Potassium Silver Sodium Vanadium Zinc	RESULTS (mg/L) ND ND 359 ND ND 424 ND ND ND 1780 1.58J ND 494 ND	RL (mg/L) 4 2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2 .2	MDL (mg/L) 1.2 .8 .04 .02 .04 2 .1 .1 .1 .6 2 .06 .2 20 .1





METHOD 3010A/60108 METALS BY TRACE ICP

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04D010 Sample ID: 71-S1-029 Lab Samp ID: D010-06 Lab File ID: I31D053034 Ext Btch ID: IPD010W Calib. Ref.: I31D053032	Date Collected: 03/31/04 Date Received: 04/01/04 Date Extracted: 04/05/04 10:30 Date Analyzed: 04/26/04 20:53 Dilution Factor: 10 Matrix : WATER % Moisture : NA Instrument ID : EMAXTI31
--	---

PARAMETERS	RESULTS (mg/L)	RL	MDL
		(mg/L)	(mg/L)
Lead Selenium Thallium	ND ND ND ND	. ? . 1 . 1 . 1	.04 .02 .05

RL: Reporting Limit

S6

	F
Client : TETRA TECH FW. INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
SDG NO. : 04D010	Date Extracted: 04/05/04 10:30
Sample ID: 71-S1-025	Date Analyzed: 04/14/04 11:01
Lab Samp ID: D010-02	Dilution Factor: 20
Lab File ID: 1070022016	Matrix : WATER
Ext Btch ID: IPD010W	<pre>% Moisture : NA</pre>
Calib. Ref.: I07D022008	Instrument ID : EMAXTIO7
	RESULTS RL MDL
PARAMETERS	(mg/L) (mg/L) (mg/L)

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)

Aluminum	ND	4	1.2
Antimony	ND	2	.8
8arium .	. 485	.2	.04
Beryllium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	404	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	1.8J	20	.6
Magnesium	1690	20	2
Manganese	1.89J	2	.06
Nickel	ND	.4	.2
Potassium	383	100	20
Silver	ND	.4	.1
Sodium	12500	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1





Client : TETRA TECH FW. INC.		Collected: Received:	
Project : MFA, CTO 71, SITE 1	Date		
SDG NO. : 04D010	Date	Extracted:	04/05/04 10:30
Sample ID: 71-S1-025	Date	Analyzed:	04/26/04 19:17
Lab Samp ID: D010-02	Diluti	on Factor:	
Lab File ID: I31D053016	Matrix	•	WATER
Ext Btch ID: IPD010W			NA
Calib. Ref.: I31D053008	Instru	ment ID :	EMAXTI31
· ·	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
	••		•••••
Arsenic	ND	.1	.04
Lead	ND	.1	.02
Selenium	ND	.1	.05
Thallium	ND	.1	.05





Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04D010 Sample ID: 71-S1-026 Lab Samp ID: D010-03 Lab File ID: 107D022018 Ext Btch ID: IPD010W Calib. Ref.: 107D022008	Matrix % Moi:	Analyzed: ion Factor:	04/01/04 04/05/04 10:30 04/14/04 11:10
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
PARAMETERS	(119/6)	(lig/L/	(11972)
Aluminum	3.55J	4	1.2
Antimony	ND .		8.
Barium	.121J	.2 .2	.04
Beryllium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	433	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND CO.S.	.2 20	.1 .6
Iron	.836J 1530	20	.0
Magnesium	1.07J	2	.06
Manganese Nickel	ND	.4	.2
Potassium	399	100	20
Silver	ND	.4	.1
Sodium ·	12200	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1

RL: Reporting Limit

SM

	=======================================
Client : TETRA TECH FW, INC.	Date Collected: 03/30/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
SDG NO. : 04D010	Date Extracted: 04/05/04 10:30
Sample ID: 71-S1-026	Date Analyzed: 04/14/04 11:10
Lab Samp ID: D010-03	Dilution Factor: 20
Lab File ID: I07D022018	Matrix : WATER
Ext Btch ID: IPD010W	% Moisture : NA
Calib. Ref.: I070022008	Instrument ID : EMAXTIO7
=======================================	=======================================

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
Aluminum¥	ND	4	1.2
Antimony	ND	2	.8
Barium	.121J	.2	.04
Beryllium	ND	.2	.02
Cadmium	ŇD	.2	.04
Calcium	433	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	1,
Iron	.8361	20	.6
Magnesium	1530	20	2
Manganese	1.073	2	.06
Nickel	ND	.4	.2
Potassium	399	100	20
Silver	ND	.4	.1
Sodium	12200	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1

[:] Aluminum was detected but was not confirmed in the Trace-ICP run and lab contamination was suspected during dilution process. The result was reported from Trace-ICP run on 04/26/04 19:27 | File ID I31D053018



Client : TETRA TECH FW. INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04D010 Sample ID: 71-S1-026 Lab Samp ID: D010-03 Lab File ID: I31D053018 Ext Btch ID: IPD010W Calib. Ref.: I31D053008	Date Date Date Dilut Matri % Moi	Extracted: Analyzed: ion Factor: x	04/01/04 04/05/04 10:30 04/26/04 19:27 10 WATER NA
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Arsenic Lead Selenium Thallium	ND ND ND ND	 .1 .1 .1	.04 .02 .05

RL: Reporting Limit

, GV/

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 04D010 Sample ID: 71-S1-027 Lab Samp ID: D010-04 Lab File ID: IO7D022019 Ext Btch ID: IPD010W Calib. Ref.: I07D022008	Date Date Date Diluti Matrix % Mois	Analyzed: on Factor: cture :	04/01/04 04/05/04 10:30 04/14/04 11:14
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	18.8	4	1.2
Antimony	ND	.2 .2 .2	.8
Barium	.164J	.2	.04
Beryllium	ND		.02
Cadmium	· ND	.2	.04
Calcium	479	20	.1
Chromium	. 107J ND	.4 .4	.1
Cobalt Copper	ND	.2	.1
Iron	1.45J	20	.1 .6 2
Magnesium	1690	20	2
Manganese	1.2J	2	.06
Nickel	ND	.4	.2
Potassium	477	100	20
Silver	ND	.4	.1
Socium	13400	20	.5
Vanadium Zinc	ND . 102J	.2 .4	.1 .1

RL: Reporting Limit

SM

Client : TETRA TECH FW, INC. Date Collected: 03/30/04 Project : MFA, CTO 71, SITE 1 Date Received: 04/01/04 SDG NO. : 04D010 Date Extracted: 04/05/04 10:30 Sample ID: 71-S1-027 Date Analyzed: 04/14/04 11:14 Lab Samp ID: D010-04 Dilution Factor: 20 Lab File ID: 107D022019 Matrix : WATER

Ext 8tch ID: IPD010W % Moisture : NA Calib. Ref.: I07D022008 Instrument ID : EMAXT107

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
Aluminum	,ND	4	1.2
Antimony	NĐ	.2	.8
Barium	,164J	.2	.04
Beryllium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	479	20	2
Chromium	.107J	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	1.45J	20	.6
Magnesium	1690	20	2
Manganese	1.2J	2	06
Nickel	ŅD	.4	.2
Potassium	477	100	20
Silver	ND	-4	.1
Sodium	13400	20	.5
Vanadium	ND	.2	.1
Zinc	.102J	.4	.1

RL: Reporting Limit

[:] Aluminum was detected but was not confirmed in the Trace-ICP run and lab contamination was suspected during dilution process. The result was reported from Trace-ICP run on 04/26/04 19:32 | File ID I310053019



- 200		
Date Date Date Diluti Matrix * Mois	Received: Extracted: Analyzed: ion Factor: c: sture :	04/01/04 04/05/04 10:30 04/26/04 19:32 10 WATER NA
RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
ND ND ND	.1 .1 .1	.04 .02 .05
	Date Date Date Date Diluti Matriy % Mois Instru RESULTS (mg/L) ND ND	Date Received: Date Extracted: Date Analyzed: Dilution Factor: Matrix :



Client : TETRA TECH FW. INC.	Date Collected: 03/31/04
Project : MFA. CTO 71. SITE 1	Date Received: 04/01/04
SDG NO. : 04D010	Date Extracted: 04/05/04 10:30
Sample ID: 71-S1-028	Date Analyzed: 04/14/04 11:30
Lab Samp ID: D010-05	Dilution Factor: 20
Lab File ID: I070022022	Matrix : WATER
Ext Btch ID: IPD010W	% Moisture : NA
Calib. Ref.: I07D022020	Instrument ID : EMAXTIO7

PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Aluminum	9.13	4	1.2
Antimony	ND	2	.8
Barium	.246	.2	.04
Beryllium	ND	.2	.02
Cadmium	· ND	.2	.04
Calcium	411	20	. 2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	17J	20	.6
Magnesium	1750	20	. 2
Manganese	2.28	2	.06
Nickel	ND	.4	.2
Potassium	487	100	20
Silver	ND	.4	.1
Sodium	14000	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1

RL: Reporting Limit

SV

Client : TETRA TECH FW, INC.	Date Collected: 03/31/04
Project : MFA, CTO 71, SITE 1	Date Received: 04/01/04
SDG NO. : 04D010	Date Extracted: 04/05/04 10:30
Sample ID: 71-S1-028	Date Analyzed: 04/14/04 11:30
Lab Samp ID: D010-05	Dilution Factor: 20
Lab File ID: 107D022022	Matrix : WATER
Ext Btch ID: IPD010W	% Moisture : NA
Calib. Ref.: 1070022020	Instrument ID : EMAXTIO7
	=======================================

	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
Aluminum	ND	4	1.2
Antimony	ND	2	.8
Barium	.246	.2	.04
Beryllium	ND	.2	.02
Cadmium	ND	.2	.04
Calcium	411	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	17J	20	.6
Magnesium	1750	20	2
Manganese	2.28	2	.06
Nickel	ND	.4	.2
Potassium	487	100	20
Silver	ND	.4	1.
Sodium	14000	20	.5
Vanadium	ND	.2	-1
Zinc	NĎ	.4	.1

RL: Reporting Limit

[:] Aluminum was detected but was not confirmed in the Trace-ICP run and lab contamination was suspected during dilution process. The result was reported from Trace-ICP run on 04/26/04 19:48 | File ID I31D053022

Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 040010 Sample ID: 71-S1-028 Lab Samp ID: D010-05 Lab File ID: I31D053022 Ext Btch ID: IPD010W Calib. Ref.: I31D053020	Date Date Date Diluti Matrix % Mois	Extracted: Analyzed: ion Factor:	04/01/04 04/05/04 10:30 04/26/04 19:48 10 WATER NA
PARAMETERS	RESULTS (mg/L)	RL (mg/L)	MDL (mg/L)
Arsenic Lead Selenium Thallium	ND ND ND ND	.1	.04 .02 .05

RL: Reporting Limit

WSMV



Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 040010 Sample ID: 71-S1-029 Lab Samp ID: D010-06 Lab File ID: 107D022023 Ext Btch ID: IPD010W Calib. Ref.: I07D022020	Date Date Date Dilut Matriz % Moi:	Analyzed: ion Factor: x :	04/01/04 04/05/04 10:30 04/14/04 11:34
	RESULTS	RL	MDL
PARAMETERS	(mg/L)	(mg/L)	(mg/L)
Aluminum	3.8J	4	1.2
Antimony	ND		.8.
Barium	.384	.2 .2	.04
Beryllium	ND	.2	.02
Cadmium	· ND	.2	.04
Calcium	443	20	2
Chromium	ND	.4	.1
Cobalt	ND	.4	.1
Copper	ND	.2	.1
Iron	9.34J	20	.6 2
Magnesium	1870	20 2	.06
Manganese	1.71J ND	.4	.00
Nickel Potassium	530	100	20
Silver	ND	.4	.1
Sodium ·	14900	20	.5
Vanadium	ND	.2	.1
Zinc	ND	.4	.1



Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 SDG NO. : 040010 Sample ID: 71-S1-029 Lab Samp ID: D010-06 Lab File ID: I31D053023 Ext Btch ID: IPD010W Calib. Ref.: I310053020	Date Date Date Diluti Matrix % Mois	Analyzed: on Factor:	04/01/04 04/05/04 10:30 04/26/04 19:53 10 WATER NA
PARAMETERS Arsenic Lead Selenium Thallium	RESULTS (mg/L) ND ND ND ND	RL (mg/L) .1 .1 .1	MDL (mg/L) .04 .02 .05

RL: Reporting Limit

SY

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04D010

METHOD 7470A TOTAL & DISSOLVED MERCURY BY COLD VAPOR

Five (5) water samples were received on 04/01/04 for Total and Dissolved Mercury analyses by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit level.

Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the control limits.

4. Serial Dilution/Post Analytical Spike

Sample C211-03 from another SDG was analyzed for serial dilution. %Difference was not evaluated since diluted sample result was not detected. Analytical spike was performed and the QC criteria were met.

Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were analyzed with dilution factor of 10.

.	ved 1116 704 704 704 704 706 706	
WATER TI047	Received DATETINE 04/19/04 04/19/04 04/19/04 04/01/04 04/01/04 04/01/04 04/01/04	
Matrix Instrument ID :	Collection DATETIME NA NA NA 03/30/04 03/30/04 03/31/04	
Matrix Instrum	PREP BATCH HCD018H HCD018N HCD018N HCD018N HCD018N HCD018N HCD018N HCD018N HCD018N	
	CAL REF 	
	LF1D W47D017034 W47D017034 W47D017036 W47D017050 W47D017051 W47D017053 W47D017053	
	Extraction DATEINE 04/19/0416:00 04/19/0416:00 04/19/0416:00 04/19/0416:00 04/19/0416:00 04/19/0416:00 04/19/0416:00	
	Analysis DATETIME 4/20/0415:33 4/20/0415:37 4/20/0415:37 4/20/0416:08 4/20/0416:10 4/20/0416:11 4/20/0416:12 4/20/0416:12	
	MDL (ug/L)	
·	(ug/L) (Mg/L) (xixixixixixixixixixixixixixixixixixixi	
	MOIST NA NA NA NA NA NA	
	10 10 10 10 10 10 10 10 10 10 10 10 10 1	
	RESULTS (ug/L) (ug/L) ND 5.07 5.07 5.07 ND ND ND	
: TETRA TECH FW. INC. : MFA, CTO 71, SITE 1 : 04D010	EMAX SAMPLE ID HGD01848 HGD0184C D010-02 D010-03 D010-03 D010-04 D010-05	
Client : Project : Batch No. :	SAMPLE 1D HBLK1W LCS1W 71-S1-025 71-S1-026 71-S1-026 71-S1-026 71-S1-027 71-S1-028	

RL: Reporting Limit

Lio / SINA

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

WATER T1047	Received DATETIME 04/19/04 04/19/04 04/01/04 04/01/04 04/01/04 04/01/04 04/01/04
ent ID :	Collection DATETINE NA NA 03/30/04 03/31/04 03/31/04
Matrix Instrum	PREP BATCH HGD017W HGD017W HGD017W HGD017W HGD017W HGD017W HGD017W HGD017W HGD017W
	CAL REF MA70017008 M470017008 M470017008 M470017020 M470017020 M470017020
	LF10
	Extraction DATETIME 104/19/0416:00 M 04/19/0416:00 M 04/19/0416:00 M 04/19/0416:00 M 04/19/0416:00 M 04/19/0416:00 M
	Analysis DAIETIME 04/20/0414:39 04/20/0414:41 04/20/0415:15 04/20/0415:12 04/20/0415:22
	(ug/L) (25.5 25.5 25.5 25.5 25.5 25.5 25.5 25.
	(ug/L) is is is is
	DLF HOIST 1
	RESULTS (ug/L) (ug/L) (ug/L) (nD (nD (nD (nD (nD (nD (nD (nD
Client : TETRA TECH FW, INC. Project : MFA, CTO 71, SITE 1 Batch No. : 040010	EMAX SAMPLE ID
Client Project Batch No.	SAMPLE 1D

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04D010

METHOD 353.3 NITRATE/NITRITE-N

Five (5) water samples were received on 04/01/04 for Nitrate/Nitrite-N analysis by Method 353.3 in accordance with "Methods for Chemical Analysis of water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Duplicate

No duplicate sample was designated in this SDG.

5. Sample Analysis

Sample analyses were performed within the QC requirements. All criteria were met.

Batch No. : 04D010			
MOIST	RL MDL Analysis Extraction L) (mg/L) DATETIME DATETIME LFID C	Collection CAL REF PREP BATCH DATETIME	tion Received IME DATETIME
1 NA		•	
520 1 NA	.02 04/09/0411:09 NA NAD001W-10 N	VADDO01W-07 NADDO01W NA	1
30 1 NA	.02 04/09/0411:09 NA NAD001M-10 N .02 04/09/0411:10 NA NAD001M-11 N	NADOO1W NADOO1W	
68 2 NA	04/09/0411:09 NA NAD001M-10 N 04/09/0411:10 NA NAD001M-11 N 04/09/0411:11 NA NAD001M-12 N	NADOOTW NADOOTW NADOOTW	
95 4 NA	.02 04/09/0411:09 NA NAD001W-10 N .02 04/09/0411:10 NA NAD001W-11 N .02 04/09/0411:11 NA NAD001W-12 N .02 04/09/0411:24 NA NAD001W-25 N	NADDO1W NADDO1W NADDO1W NADDO1W	
2.99 4 NA	.02 04/09/04/11:09 NA NAD001W-10 N .02 04/09/04/11:10 NA NAD001W-11 N .02 04/09/04/11:24 NA NAD001W-25 N .02 04/09/04/11:26 NA NAD001W-25 N	NADGOTU NADGOTU NADGOTU NADGOTU NADGOTU	
15 1 NA	.02 04/09/04/11:09 NA NADDOTW-10 N .02 04/09/04/11:10 NA NADDOTW-12 N .02 04/09/04/11:24 NA NADDOTW-25 N .02 04/09/04/11:28 NA NADDOTW-27 N .02 04/09/04/11:28 NA NADDOTW-27 N	NADOOTU NADOOTU NADOOTU NADOOTU NADOOTU NADOOTU	
1 65	.02 04/09/04/11:09 NA NADDOTW-10 N .02 04/09/04/11:10 NA NADDOTW-12 N .02 04/09/04/11:24 NA NADDOTW-25 N .02 04/09/04/11:26 NA NADDOTW-27 N .02 04/09/04/11:28 NA NADDOTW-29 N .02 04/09/04/11:29 NA NADDOTW-29 N	NADOOTW NADOOTW NADOOTW NADOOTW NADOOTW NADOOTW	



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, CTO 71, SITE 1

SDG:

04D010

METHOD 415.1 TOC

Five (5) water samples were received on 04/01/04 for Total Organic Carbon analysis by Method 415.1 in accordance with "Methods for Chemical Analysis of Water and Wastewater", EPA 600/4-79-020 (1983).

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blanks were free of contamination at reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Duplicate

Sample D010-06 was analyzed for duplicate. %RPD was within QC limit.

5. Matrix Spike

Sample D010-06 was spiked. %Recovery was within QC limit.

6. Sample Analysis

Sample analysis was performed within the QC requirements. All criteria were met.

	: MFA, CTO 71, SITE 1 : 04D010					- :	• :			Instr	Instrument ID : 1	: Whiteh	
SAMPLE ID	EMAX SAMPLE ID	RESULTS (mg/L)	DLF MOIST	RL RL (mg/L)	MDL (mg/L)	Analysis	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME	
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							!	:	!		-		
MBLK1W		Q	∓	έ.	_	04/12/0410:28	NA AN	TCD012-5	TCD012-2	TCD002W	NA AN	AN.	
LCS1W		34.4	1 11	<u>۱۷</u>	-	04/12/0410:39	¥.	TCD012-6	TCD012-2	TCD002W	NA	ΝΑ	
LCD1W		30.8	1 W		-	04/12/0410:49	¥	TCD012-7	TCD012-2	TCD002H	NA	AN	
71-\$1-025		11.3	1 N/	'n	-	04/12/0415:29	ΑN	TCD012-34	TCD012-26	TCD002W	03/30/04	04/01/04	
71-51-026		10.0	1 N	5	-	04/12/0415:39	Ą	TCD012-35	TCD012-26.	TCD002W	03/30/04	04/01/04	
MBLK2W		욮	1 N	<i>ح</i> د	-	04/12/0415:49	۸A	TCD012-36	TCD012-26	TCD003W	AN	Ā	
LCS2W		33.5	1 N/	<u>س</u>	-	04/12/0415:59	ΑN	TCD012-37	TCD012-26	TCD003W	AN	NA.	
71-S1-027		10.0	1 N/	10	•	04/12/0416:30	WA	TCD012-40	TCD012-38	TCD003W	03/30/04	04/01/04	
71-51-028		22.0	1 . N/		~ -	04/12/0416:41	NA A	TCD012-41	TCD012-38	TCD003W	03/31/04	04/01/04	
71-51-029		18.0	1 N/	 	-	04/12/0416:51	¥	TCD012-42	TCD012-38	TCD0034	03/31/04	04/01/04	
71-S1-029DU	-	17.9	1 W	در ت	-	04/12/0417:01	¥	TCD012-43	TCD012-38	TCD003H	03/31/04	04/01/04	
71-S1-029MS		41.6	, N	25	-	04/12/0417:12	NA NA	TCD012-44	TCD012-38	TCD003H	03/31/04	04/01/04	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, CTO 71

Collection Date:

March 30 through March 31, 2004

LDC Report Date:

May 6, 2004

Matrix:

Water

Parameters:

Wet Chemistry

Validation Level:

EPA Level III

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04D010

Sample Identification

71-S1-025

71-S1-026

71-S1-027

71-S1-028

71-S1-029

71-S1-029MS

71-S1-029DUP

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA Method 353.3 for Nitrate/Nitrite as Nitrogen, and EPA Method 415.1 for Total Organic Carbon.

The review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section III.

Field duplicates are summarized in Section IX.

Raw data were not reviewed for this SDG. The review was based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

a. Initial Calibration

All criteria for the initial calibration of each method were met.

b. Calibration Verification

Calibration verification frequency and analysis criteria were met for each method when applicable.

III. Blanks

Method blanks were reviewed for each matrix as applicable. No contaminant concentrations were found in the method blanks.

IV. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

V. Duplicates

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VI. Laboratory Control Samples

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VII. Sample Result Verification

Raw data were not reviewed for this SDG.

VIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

IX. Field Duplicates

Samples 71-S1-026 and 71-S1-027 were identified as field duplicates. No contaminant concentrations were detected in any of the samples with the following exceptions:

	Concentra	ition (mg/L)	
Analyte	71-\$1-026	71-\$1-027	RPD
Nitrate/Nitrite as N	2,95	2.99	1
Total organic carbon	10.0	10.0	0

X. Field Blanks

No field blanks were identified in this SDG.

Moffett Air Field, CTO 71 Wet Chemistry - Data Qualification Summary - SDG 04D010

No Sample Data Qualified in this SDG

Moffett Air Field, CTO 71 Wet Chemistry - Laboratory Blank Data Qualification Summary - SDG 04D010

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 71

Collection Date:

March 30 through March 31, 2004

LDC Report Date:

May 6, 2004

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04D010

Sample Identification

71-S1-025

71-S1-026

71-S1-027

71-S1-028

71-S1-029

71-S1-025F

71-S1-026F

71-S1-027F

71-S1-028F

71-S1-029F

71-S1-025MS

71-S1-025MSD

71-S1-025FMS

71-S1-025FMSD

Sample IDs ending in "F" were analyzed for dissolved metals

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Potassium (20x)	1.34 mg/L	All samples in SDG 04D010
ICB/CCB	Potassium (20x) Thallium (10x)	1619 ug/L 5.22 ug/L	All samples in SDG 04D010

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	,	Reported	Modified Final
	Analyte	Concentration	Concentration
71-S1-028	Thallium	0.0566 mg/L	0.0566U mg/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples.

The concentration results for the dissolved metal sample was greater than the total metal sample as follows:

	Concentration (mg/L)		
Analyte	71-\$1-027	71-S1-027F	
Aluminum	4U	18,8 -	
Potassium	375	477	

	Concentration (mg/L)			
Analyte	71-S1-028 71-S1-028F			
Aluminum	4U	9.13		

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 71-S1-026 and 71-S1-027 and samples 71-S1-026F and 71-S1-027F were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra		
Analyte	71-\$1-026	71-\$1-027	RPD
Barium	0.117	0.111	5
Calcium	433	434	0
Iron	0.669	0.682	2
Magnesium	1520	1560	3
Manganese	1.06	1.05	1
Potassium	409	375	9
Sodium	12100	12200	1

	Concentra		
Analyte	_, 71-S1-026F	71-S1-027F	RPD
Aluminum	3,55	18.8	136
Barium	0.121	0.164	30
Calcium	433	479	10
Chromium	0.4U	0.107	Not calculable
Iron	0,836	1.45	54

	Concentra		
Analyte	71-S1-026F	71-S1-027F	RPD
Magnesium	1530	1690	10
Manganese	1.07	1.2	11
Potassium	399	477	18
Sodium	12200	13400	9
Zinc	0.4U	0.102	Not calculable

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 71 Metals - Data Qualification Summary - SDG 04D010

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 71 Metals - Laboratory Blank Data Qualification Summary - SDG 04D010

SDG	Sample	Analyte	Modified Final Concentration	A or P
04D010	71-S1-028	Thallium	0.0566U mg/L	А

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 71

Collection Date:

March 30 through March 31, 2004

LDC Report Date:

May 7, 2004

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04D010

Sample Identification

71-S1-025

71-S1-026

71-S1-027

71-S1-028

71-S1-029

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention times (RT) of all compounds in the calibration standards were within QC limits.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 71-S1-026 and 71-S1-027 were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 71
Polychlorinated Biphenyls - Data Qualification Summary - SDG 04D010

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 71
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 04D010

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 71

Collection Date:

March 30 through March 31, 2004

LDC Report Date:

May 10, 2004

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04D010

Sample Identification

71-S1-025

71-S1-026

71-S1-027

71-S1-028

71-S1-029

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
4/2/04	SD02004A	RTX-CLPEST	Heptachlor 4,4'-DDD 4,4'-DDT Methoxychlor Endrin ketone	17 17 31 33 16	All samples in SDG 04D010	J (all detects) UJ (all non-detects)	А
4/2/04	SD02004A	RTX-CLPESTIJ	delta-BHC 4,4'-DDT Methoxychlor	18 17 17	All samples in SDG 04D010	J (all detects) UJ (all non-detects)	. A

Retention times (RT) of all compounds in the calibration standards were within QC limits.

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

The individual 4,4'-DDT and Endrin breakdowns were less than or equal to 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria.

The sample results for detected compounds from the two columns were within 40.0% relative percent differences (RPD) with the following exceptions:

Sample	Compound	%RPD	Flag	A or P
71-S1-025	beta-BHC	197	J (all detects)	А
71-S1-029	alpha-BHC- beta-BHC delta-BHC	144 158 99	J (all detects) J (all detects) J (all detects)	А

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 71-S1-026 and 71-S1-027 were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 71 Chlorinated Pesticides - Data Qualification Summary - SDG 04D010

SDG	Sample	Compound	Flag	A or P	Reason
04D010	71-S1-025 71-S1-026 71-S1-027 71-S1-028 71-S1-029	Heptachlor 4,4'-DDD 4,4'-DDT Methoxychlor Endrin ketone delta-BHC	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
04D010	71-S1-025	beta-BHC	J (all detects)	Α	Compound quantitation and CRQLs (%D)
04D010	71-\$1-029	alpha-BHC beta-BHC delta-BHC	J (all detects) J (all detects) J (all detects)	А	Compound quantitation and CRQLs (%D)

Moffett Airfield, CTO 71 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 04D010

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, CTO 71

Collection Date:

March 30 through March 31, 2004

LDC Report Date:

May 10, 2004

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04D010

Sample Identification

71-S1-031

71-S1-025

71-S1-026

71-S1-027

71-S1-028

71-S1-029

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

All samples were received in good condition with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
71-S1-025 71-S1-026 71-S1-027	All TCL compounds	A headspace of >6 mm was apparent in the sample containers.	There should be no headspace in the sample containers.	J (all detects) UJ (all non-detects)	A

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

For selected compounds the mean percent relative standard deviation (%RSD) was less than or equal to 15.0% and less than or equal to 30.0% for individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
4/6/04	Carbon disulfide	36.6	71-S1-031 71-S1-025 71-S1-026 71-S1-027 71-S1-028 MBLKW1	J (all detects) UJ (all non-detects)	A

The percent difference (%D) of the second source calibration standard were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria.

XIII. Tentatively Identified Compounds (TICs)

All tentatively identified compounds were within validation criteria.

XIV. System Performance

The system performance was within validation criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 71-S1-026 and 71-S1-027 were identified as field duplicates. No volatiles were detected in any of the samples.

XVII. Field Blanks

Sample 71-S1-031 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Air Field, CTO 71 Volatiles - Data Qualification Summary - SDG 04D010

SDG	Sample	Compound	Flag	A or P	Reason
04D010	71-S1-025 71-S1-026 71-S1-027	All TCL compounds	J (all detects) UJ (all non-detects)	А	Sample condition
04D010	71-S1-031 71-S1-025 71-S1-026 71-S1-027 71-S1-028	Carbon disulfide	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

Moffett Air Field, CTO 71 Volatiles - Laboratory Blank Data Qualification Summary - SDG 04D010

No Sample Data Qualified in this SDG



NUMBER 04864

1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

PROJECT NAME		PURCHASE ORD	ER NO.			ľ			A NI	ATX	SES	nr	OTIV				LABORATORY NAME	Ir ————————————————————————————————————			
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CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E228

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Four (4) water samples were received on 05/26/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd edition.

1. Holding Time

Analytical holding time was met except E228-04. Sample was labeled preserved with HCL but pH check was at 7.

2. Tuning and Calibration

Tuning and calibration were carried out at 12 hours interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

- John The Old	ANTOS DI GOJNS		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04E228 Sample ID: 86-S1-001 Lab Sample ID: E228-01 Lab File ID: RFB027 Ext Btch IO: V003F04 Calib. Ref.: REB756	Date Date (Date Dilution Matrix Mois	ment ID : T-00	6/04 2/04 07:28 2/04 07:28 R
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 1,1-DICHLOROPOPENE 1,2-3-TRICHLOROBENZENE 1,2-3-TRICHLOROBENZENE 1,2-4-TRICHLOROBENZENE 1,2-4-TRICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,4-TRICHLOROPROPANE 2,4-TRICHLOROPROPANE 2,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,4-TRICHOROPROPANE 2,4-TRICHOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,4-TRICHOROPROPANE 2,4-TRICHOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2-HEXANONE 4-CHLOROFTHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE CARBON DISULFIDE CABRON TETRACHLORIDE CHLOROPETHANE CIS-1,2-DICHLOROPROPENE DIBROMOMETHANE DICHLOROPITLURE CIS-1,3-DICHLOROPROPENE DIBROMOMETHANE DICHLOROPITLURE SUPPROPYL BENZENE M-P-XYLENE M-P-XYLENE M-P-XYLENE M-P-XYLENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE TERT-BUTYLBENZENE OTAL TOTAL TOTAL TOTAL TOTAL TH	RESUS-1-19-1-19-1-19-1-19-1-19-1-19-1-19-1	RL):5515555555555555555555555555555555555	#PL) : 223222222222222222222222222222222222
D.O. : Diluted out			

VOLATILE ORGAN	NICS BT GC/MS		
Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04E228 Sample ID: 86-S1-014 Lab Samp ID: E228-02 Lab File ID: RFB026 Ext Btch ID: V003F04 Calib. Ref.: REB756	Date Date Date Diluti Matrix % Mois	Collected: 05/24 Received: 05/24 Extracted: 06/02 Analyzed: 06/02 on Factor: 1 ture : NA ment ID : T-003	6/04 2/04 06:49 2/04 06:49 R
======================================			=======
PARAMETERS 1,1,1,2-TETRACHLOROETHANE	RESULTS (ug/L) ND	RL (ug/L)	MDL (ug/L)
1,1,1-TRICHLOROETHANE	ND	.5 .5 1	:2
1,1,2,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE	ND ND	<u>1</u>	.3
1,1-DICHLOROETHANE 1,1-DICHLOROETHENE	ND ND	.5	.2
1,1-DICHLOROPROPENE	ND	:5	:5
1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROPROPANE	ND ND	. <u>?</u>	:ź
1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE	ND ND	.5 .5	.2
1,2-DIBROMO-3-CHLOROPROPANE	ND ND	2	1
1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE	. ND	.5ٍ	:2
1,2-DICHLOROPROPANE 1,3,5-TRIMETHYLBENZENE	ND ND	.5	.2
1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,3,5-TRIMETHYLBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE	ND ND	.5 .5	, <u>2</u> .2
1,4-DICHLOROBENZENE 2,2-DICHLOROPROPANE	ND ND	.5	.2
2-BUTANONE	ND	ió	-5
2-CHLOROTOLUENE 2-HEXANONE	ND ND	ig	- 1
4-CHLOROTOLUENE 4-METHYL-2-PENTANONE	ND ND	10	- 2
ACETONE BENZENE	ND ND	10 .5	.2
BROMOBENZENE BROMOCHLOROMETHANE	ND ND	-5	.2
BROMODICHLOROMETHANE	ND	.5	.2
BROMOFORM BROMOMETHANE	ND ND	1	.2
CARBON DISULFIDE CARBON TETRACHLORIDE	ND ND	.5 .5	.2 .2
CHLOROBENZENE CHLOROETHANE	ND ND	-5 1	-2
CHLOROFORM CHLOROMETHANE	ND ND	. <u>\$</u>	-2
CIS-1,2-DICHLOROETHENE	ND	.5	.2
CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE	ND ND	.5	٠.٤
DIBROMOMETHANE DICHLORODIFLUOROMETHANE	ND ND	ชนายายายายายายายายายายายายายายายายายายาย	ั้งเก็บกระเรากระบบกระบบกระบบกระบบกระบบกระบบกระบบกระ
ETHYLBENZENE HEXACHLOROBUTADIENE	ND ND	.5 .5	.2 .2
ISOPROPYL BENZENE M/P-XYLENES	ND ND	5	.2
METHYLENE CHLORIDE N-BUTYLBENZENE	ND	2	٠٦
N-PROPYLBENZENE	ND ND	.5ੂ	: <u>ž</u>
NAPHTHALENE O-XYLENE	ND ND	.5	.3 .2
P-ISOPROPYLTOLUENE SEC-BUTYLBENZENE	ND ND	.5	.2
STYRENE TERT-BUTYLBENZENE	ND ND	.5	.2
TETRACHLOROETHYLENE	ND	:5	:2
TOLUENE TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE.	ND ND	:5	:2
TRICHLOROETHENE	ND ND	.5 .5 .1	.2 .2 .2 .2
TRICHLOROFLUOROMETHANE VINYL CHLORIDE	ND ND	1	.2 .3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4	111	62-139	
TÖLUENE-D8	106	75-125	
BROMOFLUOROBENZENE	102	75-125	
R.L.: Reporting limit * : Out of QC			
E : Exceeded calibration range B : Found in associated method blank	k		
B : Found in associated method bland J : Value between R.L. and MDL D : Value from dilution analysis			
D.O.: Diluted out			

VOLATILE ONGA	RICO DI GOFFIO		
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E228 Sample ID: 86-S1-002 Lab Samp ID: E228-03 Lab File ID: RFB028 Ext Btch ID: V003F04 Calib. Ref.: REB756	Date Date Date Diluti Matrix % Mois Instru	Collected: 05/20 Received: 05/20 Extracted: 06/00 Analyzed: 06/00 on Factor: 1 : WATEI ture: NA ment ID: T-00	5/04 2/04 08:06 2/04 08:06 R
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPENPENE 1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2-BUTANONE 2-BUTANONE 2-BUTANONE 2-BUTANONE 2-BUTANONE 2-HEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE ACETONE BROMOBENZENE BROMOBENZENE BROMOBENZENE BROMOFORM ROMOMETHANE CARBON DISULFIDE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROETHANE CHLOROFORM CHLOROMETHANE DICHLOROPROPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DICHLOROFORM CHLOROPTHANE CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DISOPROPYL BENZENE MYP-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE N-POPYLBENZENE TETRACHLOROFHURE TRICHLOROFHURE TRICHLOROFHUROPROPENE TRICHLOROFHUROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS 1,2-DICHLOROETHANE VINYL CHLOROPE TRICHLOROFHUROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS 1,2-DICHLOROETHANE N-DICHLOROFHUROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS 1,2-DICHLOROETHORE TRICHLOROFHUROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS 1,2-DICHLOROETHORE TRICHLOROFHUROMETHANE VINYL CHLORIDE R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blan J : Value between R.L. and MDL J : Value from dilution analysis	RESULTS (19/L)	RL) - 5.575.55.55.55.55.55.55.55.55.55.55.55.5	MD/
D.O.: Diluted out			

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E228 Sample ID: 86-S1-003 Lab Samp ID: E228-04 Lab File ID: RFB029 Ext Btch ID: V003F04 Calib. Ref.: REB756	Matrix % Mois	Analyzed: 06/02 on Factor: 1	/04 /04 08:44 /04 08:44
PARAMETERS 1,1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,2,3-TRICHLOROPROPENE 1,2,3-TRICHLOROPROPANE 1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,5-DICHLOROPROPANE 2,6-DICHLOROPROPANE 2,6-DICHLOROPROPENE BROMOGENZENE BROMOGENZENE BROMOGENZENE BROMOMETHANE CABBON DISULFIDE CARBON DISULFIDE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROFORM RCOMOMETHANE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE DIBROMOMETHANE DIBROMOMETHANE CIS-1,3-DICHLOROPROPENE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE CIS-1,3-DICHLOROPROPENE DIBROMOMETHANE DICHLOROBUTADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE TETRACHLOROETHYLENE TETRACHLOROETHYLENE TETRACHLOROETHYLENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHENE TETRACHLOROETHOROETHENE TETRACHLOROETHOROETHENE TETRACHLOROETHOROETHENE TETRACHLOROETHOROETHENE TETRACHLOROETHOROETHENE TETRACHLOROETHOROETHENE TETRACHLOROETHENE TETRACHLOROETHOROETHENE T	TO	ສ່ວ່າ ສ່ວ່າ ສ່ວ່າ ບໍ່ນະພະບໍ່ນະທະນະທະນະທະນະທະນະທະນະທະນະທະນະທະນະທະນະທ	שפן. שפן. עשיי עשיי עשיי
VINYL CHLORIDE SURROGATE PARAMETERS 1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE	ND % RECOVERY 126 102 98	1 QC LIMIT 62-139 75-125 75-125	-
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blan J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out	k		

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E228

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Three (3) water samples were received on 05/26/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd edition.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12 hours interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E228 Sample ID: 86-S1-001 Lab Samp ID: E228-01 Lab File ID: RFK067 Ext Btch ID: SVE029W Calib. Ref.: REK313	Date Date Date Diluti - Matrix % Mois	Collected: 05/2 Received: 05/2 Extracted: 05/2 Analyzed: 06/0 on Factor: 94 ture : NA ment ID : T-05	4/04 6/04 6/04 6/04 16:00 4/04 20:56 R
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4-DICTHLOROPHENOL 2.4-DICTHOROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.5-DINTROPHENOL 2CHLOROPHENOL 2MITROPHENOL 2.NITROANILINE 2.NITROANILINE 2.NITROPHENOL 3.3-DICTHLOROBENZIDINE 3.NITROANILINE 4.6-DINTRO-2-METHYLPHENOL 4.BROMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-NITROPHENOL 4-CHLOROANILINE 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL ACEMAPHTHENE 4-CHLOROANILINE 4-NITROPHENOL ACEMAPHTHENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BIS(2-CHLOROETHYL)PHTHALATE DISC2-CHLOROETHYL)PHTHALATE CHRYSENE DI-M-BUTYLPHTHALATE DI-M-BUTYLPHTHALATE DIBENZO(A)PHALATE BENZOLOROPHENOL P	TS); USC	RL) 4444960 900 900 9000 9000000000000 900000 90 9	L) -77774467777766777777777777777777777777

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E228 Sample ID: 86-S1-002 Lab Samp ID: E228-03 Lab File ID: RFK068 Ext Btch ID: SVE029W Calib. Ref.: REK313	Date (Date (Date (Date (Diluti) Matrix % Mois' Instru	Collected: 05/24 Received: 05/26 Extracted: 05/26 Analyzed: 06/04 on Factor: .94 ture	/04 /04 /04 16:00 /04 21:26
PARAMETERS 2, 4,5-TR ICHLOROPHENOL 2,4-5-TR ICHLOROPHENOL 2,4-5-DINITROPHENOL 2,4-5-DINITROPHENOL 2,4-5-DINITROPHENOL 2,4-5-DINITROPHENOL 2,4-5-DINITROPHENOL 2,4-5-DINITROPHENOL 2,4-5-DINITROPHENOL 2,4-5-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2-MITROANITHALENE 2-MITROANILINE 3,3-5-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL BENZO(A)ANTHACENE BENZO(A)ANTHACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(B)FLUDRANTHENE BENZO(B)FLUDRANTHENE BENZO(B)FLUDRANTHENE BENZO(B)FLUDRANTHENE BENZO(B)FLUDRANTHENE BENZO(C)FLUDRANTHENE BENZO(C)FLUDRANTHENE BENZO(C)FLUDRANTHENE BENZO(C)FUDRANTHENE BENZO(C)FUDRANTHENE BENZO(C)FUDRANTHENE BENZO(C)FUDRANTHENE BENZO(C)FUDRANTHENE BENZO(C)FUDRANTHENE BENZO(C)FUDRANTHENE BENZO(C)FUDRANTHENE BIS(2-CHLOROFITHY)PHTHALATE DI-N-OTYLPHTHALATE DI-N-OTYLPHTHALATE DI-N-OTYLPHTHALATE DI-N-OTYLPHTHALATE DI-N-OTYLPHTHALATE DI-N-OTYLPHTHALATE DI-N-OTYLPHTHALATE DI-N-BUTYLPHTHALATE r> 1971 1972 1973 1974 1975 197	L) 44449004444944499444494444444444444444	MY: 4444005444454449644444444444444444444444	
	73 61 57 60 67	QC LIMIT	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04E228 Sample ID: 86-S1-003 Lab Samp ID: E228-04 Lab File ID: RFK069 Ext Btch ID: SVE029W Calib. Ref.: REK313	- % Moist Instrum	ollected: 05/2 Received: 05/2 Xtracted: 05/2 Analyzed: 06/0 n Factor: 94 WATE Ure : NA Went ID : T-05	4/04 6/04 6/04 16:00 4/04 21:56 R
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,1-DIMITROTOLUENE 2,1-DIMITROPHENOL 2,MITROPHENOL 2,MITROPHENOL 2,MITROPHENOL 3,21-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 4,6-DIMITROPLENUL 4,6-DIMITROPLENUL 4,6-DIMITROPLENUL 4,6-DIMITROPLENUL 4-ENEMORALINE 4,6-DIMITROPLENUL 4-ENEMORALINE 4-CHLOROPHENUL-PHENUL 4-CHLOROPHENUL-PHENUL 4-CHLOROPHENUL-PHENUL 4-CHLOROPHENUL-PHENUL 4-MITROPHENOL 4-MITROPHENOL 4-MITROPHENOL ACENAPHTHYLENE MATHRACENE BENZO(A)ANHRACENE BENZO(A)ANHRACENE BENZO(A)ANHRACENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BENZO(C)FLUORANTHENE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOR	RE(J)	RL1 - 444400444400444440044444444444444444	M/- 4444095444454444964444444444444444444444
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENUL-D14 RL- Reporting limit	64 48 37 39 45 59	25-134 43-125 25-125 32-125 42-126	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E228

SW3520C/8081A PESTICIDES

Three (3) water samples were received on 05/26/04 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

. 1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%.

Endrin and DDT breakdown were within QC limits.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW3520C/8081A PESTICIDES

Client : TETRA TECH FW, INC.	Date Collected: 05/24/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/26/04
Batch No. : 04E228	Date Extracted: 05/27/04 16:00
Sample 10: 86-S1=001	Date Analyzed: 06/02/04 17:21
Lab Samp ID: E228-01	Dilution Factor: .94
Lab File ID: SF02012A	Matrix : WATER
Ext Btch ID: CPE026W	% Moisture : NA
Calib. Ref.: SF02003A	Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PARAMETERS	(dg/L)	(dg/L/ (dg/L/
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	047 0094 0094
GAMMA-CHLORDANE	.015J (ND)	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 -094
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACUI ODO	(73) 71	30-130
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	(79) 70	30-130

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column

SW3520C/8081A PESTICIDES

Client : TETRA TECH FW, INC.	Date Collected: 05/24/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/26/04
Batch No. : 04E228	Date Extracted: 05/27/04 16:00
Sample ID: 86-S1-002	Date Analyzed: 06/02/04 17:46
Lab Samp ID: E228-03	Dilution Factor: .94
Lab File ID: SF02013A	Matrix : WATER
Ext Btch ID: CPE026W	% Moisture : NA
Calib. Ref.: SF02003A	Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094[.0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094 .
GAMMA-CHLORDANE	.014J (ND)	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(ND) ND	.094 .028[.028
ENDOSULFAN II	(ND) ND	.094 .019[.019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR .	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2]1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(85) 83	30-130
	(82) 73	30-130
DECACHLOROBIPHENYL	(02) 1/3	30 130

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column

SW3520C/8081A PESTICIDES

3888	
Client : TETRA TECH FW, INC.	Date Collected: 05/24/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/26/04
Batch No. : 04E228	Date Extracted: 05/27/04 16:00
Sample ID: 86-S1-003	Date Analyzed: 06/02/04 18:11
Lab Samp ID: E228-04	Dilution Factor: .94
Lab File ID: SF02014A	Matrix : WATER
Ext Btch ID: CPE026W	% Moisture : NA
Calib. Ref.: SF02003A	Instrument ID : GCT008

		-g
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(.061) (.012J	.047 .0094 .0094
GAMMA-BHC (LINDANE)	.025J (ND)	.047 .0094 .0094
BETA-BHC	.013J (.38)	.047 .0094 .0094
HEPTACHLOR	(ND) [ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND)[ND	.047 .0094 .0094.
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,41-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.019 .019
4,4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	-094 -019 -019
METHOXYCHLOR .	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
	0514004	70 470
TETRACHLORO-M-XYLENE	95 (98)	30-130
DECACHLOROBIPHENYL	(89) 78	30-130

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E228

SW3520C/8082 PCBs

Three (3) water samples were received on 05/26/04 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

sw3520c/8082 PCBs

______ Date Collected: 05/24/04 Client : TETRA TECH FW, INC. Date Received: 05/26/04 Date Extracted: 05/27/04 16:00 Project : MFA, SITE 1, CTO 86 Batch No. : 04E228 Date Analyzed: 06/02/04 17:21 Sample ID: 86-S1-001 Lab Samp ID: E228-01 Lab File ID: SF02012A Dilution Factor: .94 Matrix : WATER : NA % Moisture Ext Btch ID: CPE026W Instrument ID : GCT008 Calib. Ref.: SF02006A

•				
		*		
	RESULTS	RL	MDL	
PARAMETERS	(ug/L)	(ug/L)	(ug/L)	
PCB-1016	(ND) ND	.94	.24 _24	
PCB-1221	(ND) ND	.94	.24 .24	
PCB-1232	(ND) ND	.9 4	.24 .24	
PCB-1242	(ND) ND	.94	.24 .24	
PCB-1248	(ND) ND	.94	.24 .24	
PCB-1254	(ND) ND	.94	.24 .24	
PCB-1260 .	(ND) ND	.94	.24 .24	
	N DECOVEDY	QC LIMIT		
SURROGATE PARAMETERS	% RECOVERY	AC FIMIL		
TETRACHLORO-M-XYLENE	(68) 66	30-130		
DECACHLOROBIPHENYL	(83) 75	30-130		

Left of | is related to first column ; Right of | related to second column () included the reported column

* Out side of QC Limit

sw3520c/8082 PCBs

Client : TETRA TECH FW, INC.	Date Collected: 05/24/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/26/04
Batch No. : 04E228	Date Extracted: 05/27/04 16:00
Sample ID: 86-S1-002	Date Analyzed: 06/02/04 17:46
Lab Samp ID: E228-03	Dilution Factor: .94
Lab File ID: SF02013A	Matrix : WATER
Ext Btch ID: CPE026W	% Moisture : NA
Calib. Ref.: SF02006A	Instrument ID : GCT008
=======================================	

		-5*	
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	-94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.94	.24 .24
PCB-1248	(ND) ND	-94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260 ·	(ND) D	.94	.24 -24 -
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(79) 78	30-130	
DECACHLOROBIPHENYL	(88) 78	30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column

() included the reported column

* Out side of QC Limit

SW3520C/8082 PCBs

Client : TETRA TECH FW, INC.	Date Collected: 05/24/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/26/04
Batch No. : 04E228	Date Extracted: 05/27/04 16:00
Sample ID: 86-S1-003	Date Analyzed: 06/02/04 18:11
Lab Samp ID: E228-04	Dilution Factor: .94
Lab File ID: SF02014A	Matrîx : WATER
Ext Btch ID: CPE026W	% Moisture : NA
Calib. Ref.: SF02006A	Instrument ID : GCT008

		-	
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24].24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
		• • • • • • • •	
TETRACHLORO-M-XYLENE	(87) 90	30-130	
DECACHLOROBIPHENYL	(96) 84	30-130	

RL: Reporting Limit

Left of | is related to first column; Right of | related to second column
() included the reported column
* Out side of QC Limit

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E228

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Three (3) water samples were received on 05/26/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the control limits.

4. Serial Dilution

Sample E241-01 from another SDG was analyzed for serial dilution. % Difference was not evaluated since diluted sample result was not detected. Analytical spike was performed and met the QC limits.

5. Matrix Spike/Matrix Spike Duplicate

MS/MSD sample was designated in this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were diluted out due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Client Project Batch No.	: TETRA TECH FW. INC. : MFA, SITE I, CTO 86 : 04E228									,	Matr Instr	datrix : W Instrument ID : T	WAIEK T1047	
	FMAX	RESIII TS			ā	Œ	Analveis .	Extraction				Collection	Received	
SAMPLE ID	SAMPLE ID	(ug/L) DLF MOIST (u	DLF M	OIST (- 10	(ng/L)	DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME	
		:	:	:		:				:				
MBLK1W	HGF008WB	S	٦	ΑN	εń	7	06/08/0410:49	06/07/0415:00	M47F009010	M47F009008		Ŋ	06/07/04	
LCS1W	HGF008WL	4.72	7	Ä	κį	Ξ.	06/08/0410:52	06/07/0415:00	1 M47F009011	M47F009008		NA	06/07/04	
LCD1W	HGF008MC	4.76	1	Ä	ςi	7	06/08/0410:54	06/07/0415:00	1 M47F009012			NA	06/07/04	
86.S1.00I	E228-01	2	20	Ą	4	2	06/08/0412:45	06/07/0415:00	1 M47F009063	M47F009054		05/24/04	05/26/04	
86-51-002	E228-03	2	23	ž	4	8	06/08/0412:47	06/07/0415:00 M47F009064	M47F009064		HGF008W	05/24/04	05/26/04	
86-51-003	E228-04	욷	20	NA	4	2	06/08/0412:54	06/07/0415:00 M47F009067	M47F009067			05/24/04	05/26/04	
i	:												-	
KL: Keporting Limit	ting Limit												-	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 24, 2004

LDC Report Date:

July 6, 2004

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E228

Sample Identification

86-S1-001

86-S1-002**

86-S1-003

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-010MS/MSD (All samples in SDG 04E228)	Mercury	66 (75-125)	64 (75-125)	-	J (all detects) UJ (all non-detects)	А

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-001 and 86-S1-002** were identified as field duplicates. No mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 04E228

SDG	Sample	_ Analyte	Flag	A or P	Reason
04E228	86-S1-001 86-S1-002** 86-S1-003	Mercury	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Airfield, CTO 86

Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 04E228

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 24, 2004

LDC Report Date:

July 1, 2004

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E228

Sample Identification

86-S1-001

86-S1-002**

86-S1-003

^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 86-S1-001 and 86-S1-002** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86
Polychlorinated Biphenyls - Data Qualification Summary - SDG 04E228

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 86
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 04E228

No Sample Data-Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 24, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E228

Sample Identification

86-S1-001

86-S1-002**

86-S1-003

^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 86-S1-001 and 86-S1-002** were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 04E228

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 04E228

No Sample Data-Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Field, CTO 86

Collection Date:

May 24, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E228

Sample Identification

86-S1-001

86-S1-002**

86-S1-003

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 3 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for selected compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-001 and 86-S1-002** were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

	Concentr		
Compound	86-S1-001	86-S1-002**	RPD
Caprolactam	9.4U	6.2	Not calculable
Bis(2-ethylhexyl)phthalate	19U	42	Not calculable

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Field, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04E228

No Sample Data Qualified in this SDG

Moffett Field, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04E228

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 24, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E228

Sample Identification

86-S1-001

86-S1-014

86-S1-002**

86-S1-003

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
86-S1-003	All TCL compounds	9	7	J (all detects) UJ (all non-detects)	Р

All samples were received in good condition with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
86-S1-003	All TCL compounds	Air bubbles were apparent in the sample containers,	There should be no air bubbles in the sample containers.	J (all detects) UJ (all non-detects)	Ά

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) was less than or equal to 15.0% and less than or equal to 30.0% for individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected samples. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
6/2/04	Dichlorodifluoromethane	37.1	All samples in SDG 04E228	J (all detects) UJ (all non-detects)	Α .

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
5/27/04	Chloromethane Vinyl chloride 1,1-Dichloropropene n-Butylbenzene	25.0 20.6 23.8 22.1	All samples in SDG 04E228	J (all detects) UJ (all non-detects)	P

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-001 and 86-S1-002** were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

	Concent		
Compound	86-\$1-001	86-\$1-002**	RPD
Toluene	0.54	0.71	27

XVII. Field Blanks

Sample 86-S1-014 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Airfield, CTO 86 Volatiles - Data Qualification Summary - SDG 04E228

SDG	Sample	Compound	Flag	A or P	Reason
04E228	86-S1-003	All TCL compounds	J (all detects) UJ (all non-detects)	Р	Technical holding times
04E228	86-S1-003	All TCL compounds	J (all detects) UJ (all non-detects)	А	Sample condition
04E228	86-S1-001 86-S1-014 86-S1-002** 86-S1-003	Dichlorodifluoromethane	J (all detects) UJ (all non-detects)	А	Continuing calibration (%D)
04E228	86-S1-001 86-S1-014 86-S1-002** 86-S1-003	Chloromethane Vinyl chloride 1,1-Dichloropropene n-Butylbenzene	J (all detects) UJ (all non-detects)	Р	Continuing calibration (ICV %D)

Moffett Airfield, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 04E228

No Sample Data Qualified in this SDG

1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

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86-51-015	5/25/04	1010	3	X	wda	7	\leq	,							,		Trip Blank	1		B
86-51-006	5/25/09	1115	11	X	W		K	>	\leq	\geq	\leq	\geq	\leq	\boxtimes	\boxtimes		W1-14			Reg
86-51-007	5/25/04	1130	11	$ \rangle$	Wdo		X		<	\nearrow	\leq	\geq	\leq	X	X	_	Field Buplical	eω	-14	5
86-51-008	5/25/24	1340	11	X	With		\times	\nearrow	<	X		\geq	\leq	X	\boxtimes		W1-12R			Reg
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CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E241

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Six (6) water samples were received on 05/27/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd edition.

1. Holding Time

Samples E241-01, -03, -04 and -06 had HCL preserved label but pH check were at 7. They were analyzed on the 8th day after sampling, one day out of holding time for unpreserved samples.

2. Tuning and Calibration

Tuning and calibration were carried out at 12 hours interval. All QC requirements were met.

3. Method Blank

Method blanks were free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-004 Lab Samp ID: E241-01 Lab File ID: RFB030 Ext Btch ID: V003F04 Calib. Ref: REB756		Collected: 05/25 Received: 05/27 Extracted: 06/02 Analyzed: 06/02 on Factor: 1 (: WATER Sture : NA mment ID : T-003	
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,-TALCHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,2,3-TERICHLOROBENZENE 1,2,3-TERICHLOROBENZENE 1,2,4-TERICHLOROBENZENE 1,2,4-TERICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROENZENE 1,3-DICHLOROENZENE 1,3-DICHLOROENZENE 1,3-DICHLOROENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 2,2-DICHLOROBENZENE 2,2-DICHLOROPROPANE 2-CHLOROTOLUENE 2-CHLOROTOLUENE 2-CHLOROTOLUENE 4-CHLOROTOLUENE 4-CHLOROTOLUENE 4-CHLOROTOLUENE 4-CELOROTOLUENE E 4-CELORE 4			
1,1,1-TRICHLOROETHANE 1,1,2,2-TETRACHLOROETHANE	ND ND ND	.5 1	.2 .3
1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE	ND ND ND	.5	.2 .2
1 1-DICHLOROETHENE 1 1-DICHLOROPROPENE	ND ND	.5 .5	.2
112,3-TRICHLOROBENZENE 123-TRICHLOROPROPANE	ND ND	.5 .5	.2
1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE	ND ND	• <u>•</u>	.ž
1,2-DIBROMO-3-CHLOROPROPANE 1,2-DICHLOROBENZENE	ND ND ND	.5	.2
1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE	ND	-5	:5
1,3-DICHLOROBENZENE	ND ND ND	. <u>5</u>	.5
1,4-DICHLOROPROPANE 1,4-DICHLOROBENZENE 2,2-DICHLOROPROPANE	ND ND	ΞĘ	:5
2-BUTANONE 2-BUTANONE 2-CHI OPOTOLUENE	ND ND	1 <u>0</u>	.2
2-HEXANONE 4-CHLOROTOLLIENE	ND ND	1 <u>0</u>	. i
4-METHYL-2-PENTANONE ACETONE	ND ND	10 10	1 2
BENZENE BROMOBENZENE	ND ND	:5	.2 .2
BROMOCHLOROMETHANE BROMODICHLOROMETHANE	ND ND ND	.5	:5
BROMOFORM BROMOMETHANE BROMOMETHANE	ND.	1	.2
ACETONE SENZENE BROMOBENZENE BROMOBENZENE BROMOD I CHLOROMETHANE BROMOD I CHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROBETHANE CHLOROFTHANE CHLOROMETHANE CHLOROMETHANE	ND ND ND	: 5	چ
CHLOROSENZENE CHLOROSENZENE CHLOROSENZENE	ND ND	• <u>1</u>	.ž
CHLOROMETHANE CIS-1,2-DICHLOROETHENE	ND ND	.5	.5
CHLOROMETHANE CIS-1,2-DICHLOROPETHENE CIS-1,3-DICHLOROPETHENE DIBROMOCHLOROMETHANE DIBROMOMETHANE DICHLOROPETHANE DICHLOROPETHANE	ND ND	.5 .5	.2 .2
DIBROMOMETHANE DICHLORODIFLUOROMETHANE	ND ND	- <u>5</u>	.2
ETHYLBENZENE HEXACHLOROBUTADIENE	ND ND ND	:5	. <u>ર</u>
ISOPROPYL BENZENE M/P-XYLENES	ND ND ND	. <u>,</u>	.3
NETHTLENE CHORIDE N-BUTYLBENZENE	ND ND	.ξ	.2
NAPHTHALENE O-XYI ENE	ND ND	.5 .5	.3
P-ÎSOPROPYLTOLUENE SEC-BUTYLBENZENE	ND ND	.5	.2 .2
DICHLORODIFLUOROMETHANE ETHYLBENZENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE M/P-YYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE NAPHTHALENE O-XYLENE PISOPROPYLTOLUENE SEC-BUTYLBENZENE STYRENE TERT-BUTYLBENZENE TETRACHLOROFTHYLENE TOLUENE	ND ND	. <u>5</u>	.2
TETRACHLOROETHYLENE TOLUENE	ND ND ND	:5	.ź
TRANS-1,3-DICHLOROPROPENE	ND ND	ຜູ້ທີ່ພາກໍນີ້ ທີ່ ທີ່ ທີ່ ທີ່ ທີ່ ທີ່ ທີ່ ທີ່ ທີ່ ທີ່	งกับเราะ เลาะเลาะเลาะเลาะเลาะเลาะเลาะเลาะเลาะเลาะ
TETRACHEUGETHYLENE TOLUENE TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRICHLOROFLUOROMETHANE VINYL CHLORIOE	ND ND	. 1 1	.2 .3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE	133 100 93	62-139 75-125 75-125	
		75-125	
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method bla			
E Exceeded calibration range B Found in associated method bla	nk		

B : Found in associated method blar J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-015 Lab Samp ID: E241-02 Lab File ID: REB959 Ext Btch ID: V003E95 Calib. Ref: REB756	Date Date Date Diluti Matri Mois Instri	Collected: 05/2: Received: 05/2: Extracted: 06/0' Analyzed: 06/0' ion factor: 1 (₹
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 1.1.1.2-TETRACHLOROETHANE 1.1.1-TRICHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.1-TICHLOROETHANE 1.1.1-TICHLOROETHANE 1.1.1-TICHLOROETHANE 1.1.1-TICHLOROETHENE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.4-TRIMETHYLBENZENE 1.2.4-TRIMETHYLBENZENE 1.2.1-TRICHLOROBENZENE 1.2.1-TRIMETHYLBENZENE 1.2-DICHLOROETHANE 1.2-DICHLOROBENZENE 1.2-DICHLOROETHANE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 2.2-DICHLOROPROPANE 2.4-TRIMETHYLBENZENE 1.3-DICHLOROPROPANE 2.4-TRIMETHYLBENZENE 2.2-DICHLOROPROPANE 2.4-TRIMETHYLBENZENE 3.4-TRIMETHYLBENZENE 3.4-TRIMETHYLBENZENE 3.4-TRIMETHYLBENZENE 3.4-TRIMETHYLBENZENE 3.4-TRIMETHYLBENZENE 3.4-TRIMETHYLBENZENE 3.4-TRICHLOROETHYLENE 3.4-TRIMETHYLBENZENE 3.4-TRICHLOROETHENE 3.4-TRIMETHYLBENZENE 3.4-TRICHLOROETHENE 3.4-TRICHLORO		. ທິນປະທຸນທ່ານເຂົ້າຂໍ້ວິດທີ່ນາດທີ່ນາດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ່ສຸດທີ	. กับพิมานักนักนักนักนักนักนักนักนักนักนักนักนักน
SURROGATE PARAMETERS 1,2-DICHLOROETHANE-D4 TOLUENE-D8 SROMOFLUOROBENZENE	% RECOVERY 118 109 96	QC LIMIT 62-139 75-125 75-125	
ROMOFLUOROBENZENE R.L.: Reporting limit * : Out of QC F - Exceeded calibration range	96	/ 5-125	

* : Out of QC
E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out

2005

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-006 Lab Samp ID: E241-03 Lab File ID: FRB031 Ext 8tch ID: V003F04 Calib. Ref: REB756	Date F	nent ID : T-003	:
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
	ND	.5	
1,1,2-TETRACHLOROETHANE 1,1,-TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE	ND ND	.5 .5	-2
1,1,2-TRICHLOROETHANE	NĐ	ۍيځ.	:2
1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE	ND ND	:3	:2
1,1-DICHLOROPROPENE 1,2-3-TRICHLOROBENZENE	ND ND	:5 :5	.2
1,2,3-TRICHLOROPROPANE	ND ND	.5	.2
1,2,4-TRIMETHYLBENZENE	ND ND	: <u>š</u>	:2
1,2-DICHLOROBENZENE	ND	ځِ.	.2
1,2-DICHLORGETHANE 1.2-DICHLORGPROPANE	ND ND	.5	:ź
1,3,5-TRIMETHYLBENZENE	ND ND	. <u>5</u>	.2
1,3-DICHLOROPROPANE	ND	.5	.2
1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 1,2-3-TRICHLOROPROPANE 1,2-3-TRICHLOROPROPANE 1,2-4-TRICHLOROPROPANE 1,2-4-TRIMETHYLBENZENE 1,2-DICHLOROENZENE 1,2-DICHLOROENZENE 1,2-DICHLOROENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE 1,4-DICHLOROPROPANE 1,4-DICHLOROPROPANE 2,2-DICHLOROPROPANE	ND ND	.5 10	:2
2-CHLOROTOLUENE	ND ND	15	.ž
2,2-DISHLOROPROPANE 2-BUTANONE 2-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE	ND ND	10 -5	ځ.
4-METHYL-2-PENTANONE ACETONE	ND ND	10 10	1 2
ロロメフロメゼ	ND	5	-2
BROMOBENZENE BROMOCHLOROMETHANE BROMODICHLOROMETHANE	ND ND ND	:5ౖ	:3
BROMOFORM	ND	٠,1	-5
BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE	ND ND	.5	: <u>ź</u>
CARBON TETRACHLORIDE CHLOROBENZENE	ND ND	.5 .5	-2 -2
CARBON 1: HACHLORIDE CHLOROBENZENE CHLOROBENZENE CHLOROFORM CHLOROMETHANE C15-1,2-DICHLOROBETHENE C15-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE	ND ND	1	-2
CHLOROMETHANE	ND ND	1	-5
CIS-1,3-DICHLOROPROPENE	ND	.5ౖ	:2
DIBROMOCHLOROMETHANE DIBROMOMETHANE	ND ND		:၌
DICHLORODIFLUOROMETHANE ETHYLBENZENE	ND ND	.5	.5
HEXACHLOROBUTADIENE	ND ND	.5 .5	:2
M/P-XYLENES	ND ND	1	-3
N-BUTCHER CREOKIDE	ND	•₹	ئے۔
DIBROMOCHLOROMETHANE DIBROMOMETHANE DICHLORODIFLUOROMETHANE ETHYLBENZENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE NAPHTHALENE O-XYLENE	ND ND	ױ֖ װְפְיּמִישְׁיִישְׁיִשְׁיִּשְׁיִשְׁיִישְׁיִשְׁיִישְׁיִישְׁיִשְׁיִישְׁיִישְׁיִישְׁיִישְׁיִּשְׁיִּשְׁיִּשְׁיִישְׁי	ับนั้นที่เก็บที่น
NAPHINALENE 0-YLENE P-ISOPROPYLTOLUENE SEC-BUTYISENZENE STYRENE FET-BUTYISENZENE	ND ND	• <u>•</u>	۶.
SEC-BUTYLBENZENE STYRENE	ND ND	.5	.2 .2
TETRACHI ODOETHYI ENE	ND ND	.5 -5	.2
TOLUBNE TOLUBNE TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRICHLOROETHENE	ND ND	٤	.2
TRANS-1,3-DICHLOROPROPENE	ND ND	ž	:2
KICHLURUFLUURUMEIHANE	ND	. į	:5
VINYL CHLORIDE	ND		.3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TÓLUENE-D8 BROMOFLUOROBENZENE	129 101 99	62-139 75-125 75-125	
BROMOFLUOROBENZENE	· 99	75-125	
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blar	nk		

E Exceeded callbration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

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Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-007 Lab Samp ID: E241-04 Lab File ID: RFB033 Ext Btch ID: V003F04 Calib. Ref.: REB756	- matrix % Mois	Collected: 05/2: Received: 05/2: Extracted: 06/0: Analyzed: 06/0: on Factor: 1 : : WATE: ture	R
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROENZENE 1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2,4-TRIMETHYLSENZENE 1,2,4-TRIMETHYLSENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROBENZENE 2,2-DICHLOROPROPANE 2,2-DICHLOROBENZENE 2,2-DICHLORO	ND	.5	
1,1,1-TRICHLUROETHANE 1,1,2,2-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE	ND ND ND	• <u>1</u>	.3
1,1-DICHLOROETHANE 1,1-DICHLOROETHENE	ND ND	.5	.2
1,1-DICHLOROPROPENE 1,2,3-TRICHLOROBENZENE	ND ND	.5 .5	-52
1,2,5-TRICHLOROPROPANE 1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETRYLBENZENE	ND ND ND	.5 .5	.2 .2
1,2-DIBROMO-3-CHLOROPPOPANE 1,2-DICHLOROBENZENE	ND ND ND ND	.5	. <u>1</u>
1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE	NĐ	.5 .5	.2
1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE	ND ND ND	:55	.2 .2
1,4-DICHLOROBENZENE 2,2-DICHLOROPROPANE	ND ND	.5	- 2
2-BUTANONE 2-CHLOROTOLUENE 3-CHLOROTOLUENE	ND ND ND	1 <u>0</u> 10	.2
4-CHLOROTOLUENE 4-METHYL-2-PENTANONE	ND ND	.5 10	. <u>ż</u>
ACETONE BENZENE	ND ND	10 • <u>5</u>	.22
BROMOBENZENE BROMOCHLOROMETHANE BROMOCICHLOROMETHANE	ND ND ND	.5	.2
BROMOFORM BROMOMETHANE	ND ND	1 1	.5
CARBON DISULFIDE CARBON TETRACHLORIDE	ND ND ND	.5	.ş
CHLOROETHANE CHLOROFORM	ND ND	. <u>1</u>	. <u>2</u>
CHLOROMETHANE CIS-1,2-DICHLOROETHENE	ND ND	. <u>5</u>	.5
CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE DIBROMOMETHANE	ND ND ND	.5	:52
DICHLORODIFLUOROMETHANE ETHYLBENZENE	ND ND ND	. <u>5</u>	.5 .2
HEXACHLOROBUTADIENE ISOPROPYL BENZENE	ND ND ND	.5 .5	. <u>2</u>
METHYLENE CHLORIDE N-BUTYLBENZENE	ND.	.5	.2
N-PROPYLBENZENE NAPHTHALENE	ND ND ND	-5 -5	.2
U-XYLENE P-ISOPROPYLTOLUENE SEC-BUTYLBENZENE	ND ND ND ND	.5 .5	.2
STYRENE TERT-BUTYLBENZENE	ND	ݵݽݐݭݽݽݰݽݽݽݽݽݽݽݽݽݽݽݲݵݝݵݝݥݥݽݽݭݲݭݽݲݲݵݽݭݲݽݲݽݲݽݭݽݽݽݽݽݽݽݥݥݥݥݥݥݥݥݥݥݥݥݥ	น้ำมนั้นที่ส่นที่สามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามารถสามา
TETRACHLORUETHYLENE TOLUENE TPANS-1 2-DICHLOROFTHENE	ND ND ND	.5	:2
TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE	ND ND	.5	.2
BROMODICHLOROMETHANE BROMOFORM BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROGETHANE CHLOROMETHANE CIS-1,2-DICHLOROPROPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOMETHANE DIBROMOMETHANE DICHLORODIFLUOROMETHANE ETHYLBENZENE HEXACHLORODIFLUOROMETHANE BETHYLBENZENE M-P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE STYRENE TETRACHLOROMETHANE TETRACHLOROMETHANE TETRACHLOROMETHANE TETRACHLOROMETHANE TRANS-1,2-DICHLOROPROPENE TRANS-1,3-DICHLOROPROPENE TRICHLOROFTHENE	ND ND	1	:\$
	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TÖLUENE-D8 BROMOFLUOROBENZENE	131 109 90	62-139 75-125 75-125	
R.L.: Reporting limit * : Out of QC	/•		
* : Out of QC E : Exceeded calibration range B : Found in associated method bla	nk		
<pre>J : Value between R.L. and MDL D : Value from dilution analysis</pre>			
D.O. : Diluted out			

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-008 Lab Samp ID: E241-05 Lab File ID: RFB034 Ext Btch ID: V003F04 Calib. Ref.: REB756	Matrix % Mois	Collected: 05/25, Received: 05/27, Extracted: 06/02, Analyzed: 06/02, ion Factor: 1 k : WATER sture : NA ument ID : T-003	/04 /04 /04 /04 11:57
PARAMETERS 1,1,1,2-TETRACHLOROETHANE 1,1,1-TRICHLOROETHANE 1,1,2-TERICHLOROETHANE 1,1,2-TERICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 1,2-S-TRICHLOROBENZENE 1,2-S-TRICHLOROBENZENE 1,2-S-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,1-DICHLOROPROPANE 2,1-DICHLOROPROPANE 2,1-DICHLOROPROPANE 2-BLTANONE 2-CHLOROTOLUENE 4-METHYL-2-PENTANONE ACETONE BROMOGELNOMETHANE BROMOMETHANE CARBON DISULFIDE CARB	RESULTS (19/L) - ND	RL) 5,5-5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,5	MD/- MD/- MD/- TO AGNIVATAVAVAVAVAVAVAVAVAVAVAVAVAVAVAVAVAVAV
E Exceeded calibration range B : Found in associated method blar J : Value between R.L. and MDL D : Value from dilution analysis D.O : Diluted out	nk		

SW 50308/82608 VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-009 Lab Samp ID: E241-06 Lab File ID: RFB035 Ext 8tch ID: V003F04 Calib. Ref.: REB756	- Matriy	sture : NA	1
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,1,Z-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROBENZENE 1,2,4-TRICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROMETHANE BROMOBORM BROMOBOR ZENE BROMOGORM CHLOROBETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROBITHANE CHLOROBENZENE CHLOROBORTHANE CHLOROBETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DISPOPOLYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE TRACHLOROETHENE TRICHLOROFTHENE	RESULTS 1	RL) 55-45-55-55-55-55-55-55-55-55-55-55-55-5	มา พระ พระ พระ พระ พระ พระ พระ พระ

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E241

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Five (5) water samples were received on 05/27/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd edition.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12 hours interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04E241 Sample ID: 86-S1-004 Lab Samp ID: E241-01 Lab Fite ID: RFK082 Ext Btch ID: SVF001W Calib. Ref.: REK313	Date Date Date Date Date Diluti - Matrix % Mois Instru	Collected: 05/2 Received: 05/2 Extracted: 06/0 Analyzed: 06/0 on Factor: 94 ture: NA ment ID: T-05	7/04 1/04 1/04 17/04 17:00 17/04 19:21 R
PARAMETERS 2. 4. 5-TRICHLOROPHENOL 2. 4. 5-TRICHLOROPHENOL 2. 4. DINTETHYLPHENOL 2. 4. DINTETHYLPHENOL 2. 4. DINTETHYLPHENOL 2. 4. DINTETHYLPHENOL 2. 4. DINTETHYLPHENOL 2. 4. DINTETHYLPHENOL 2. 4. DINTETHYLPHENOL 2. METHYLNAPHTHALENE 2. METHYLNAPHTHALENE 2. METHYLNAPHTHALENE 2. METHYLPHENOL 2. MITROANILINE 4. DINTEROANILINE 4. DINTEROANILINE 4. CHLOROPHENYL PHENYL ETHER 4. CHLOROANILINE 4. CHLOROPHENYL-PHENYL ETHER 4. CHLOROPHENYL-PHENYL ETHER 4. METHYLPHENOL 4. MITROANILINE 4. MITROANILINE 4. MITROANILINE 4. MITROANILINE 4. MITROANILINE 4. MITROANILINE 4. MITROANILINE 4. MITROANILINE 4. MITROANILINE 4. MITROPHENOL ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE BENZO(A) ANTHRACENE BENZO(A) PYRENE BENZO(S) FLUORANTHENE BENZO(S) FLUORANTHENE BENZO(S) FLUORANTHENE BENZO(S) FLUORANTHENE BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) STHER BIS(2. CHLOROFICH) BENZO(S, FLUORANTHENE BENZO(S, FLUORANTHENE BENZO(S, FLUORANTHENE BENZO(S, FLUORANTHENE BENZO(S, FLUORANTHENE BENZO(S, FLUORANTHENE BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(2. CHLOROFICH) BIS(3. CHLOROFICH) BIS(3. CHLOROFICH) BIS(4. CHLOROFICH) BIS(4. CHLOROFICH) BIS(5	TS); UNIVERSE PROPERTIES PROPERT	RAI - 444400044440044444004444444444444444	M2 444460054444466444444444444444444444444
RL: Reporting Limit (1): Cannot be separated from 3-Methyl	nheno l		

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW. INC. Project : MFA SITE 1, CTO 86 Batch No. : 04E241 Sample : D1: 86-S1-006 Lab Samp ID: E241-03 Lab File ID: RFK083 Ext Btch ID: SVF001W Calib. Ref.: REK313	Date Date Date Date Date Diluti Matrix Mois Instru	Collected: 05/2: Received: 05/2: Extracted: 06/0: Analyzed: 06/0: on Factor: .94 ture	5/04 7/04 1/04 17:00 1/04 19:51 R
PARAMETERS 2, 4,5-TRICHLOROPHENOL 2, 4-5-TRICHLOROPHENOL 2, 4-DINITROPHENOL 3, 3-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 4, 4-DINITROPHENOL 4, 5-DINITROPHENOL 4, 6-DINITROPHENOL 4, 6-TRIBROMOPHENOL 5, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,	REGOVER ASSESSED ASSE	RL) - 44449000 9000 90000 9000000000 9000000 9000000	DL:
2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZEME-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit (1): Cannot be separated from 3-Methylp	64 47 47 522 64	25-134 43-125 25-125 25-125 25-125 25-125 42-126	

(1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-007 Lab Samp ID: E241-04 Lab File ID: RF(084 Ext Btch ID: SVF001W Calib. Ref.: REK313	Date Date Date Date Diluti Matrix % Mois Instru	Collected: 05/2: Received: 05/2 Extracted: 06/0 Analyzed: 06/0 on Factor: 94 ture NA ment ID: T-05	
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,0-TRICHLOROPHENOL 2.4-OIMETHYLPHENOL 2.4-OINTROPHENOL 2.4-OINTROTOLUENE 2.6-OINTROTOLUENE 2.6-OINTROTOLUENE 2.6-OINTROTOLUENE 2.6-OINTROTOLUENE 2.6-OINTROTOLUENE 2.6-OINTROTOLUENE 2.6-OINTROTOLUENE 2.6-OINTROPHENOL 2.METHYLNAPHTHALENE 2.METHYLNAPHTHALENE 2.MITROPHENOL 2.MITROPHENOL 3.1-OICHLOROBENZIDINE 3.1-OICHL		RL) - 444400044440004444000000000000000000	L) - 7777-44677-7-76777-74677-7-7777777777
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENDL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	% RECOVERY 73 52 47 52 52 53 69	QC LIMIT 25-134 43-125 25-125 25-125 42-126	

(1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04E241 Sample : 10: 86-S1-008 Lab Samp ID: E241-05 Lab File ID: RFK085 Ext Btch ID: SVF001W Calib. Ref.: REK313	Date Date Date Date Diluti - Matrix % Mois Instru	Collected: 05/2: Received: 05/2: Extracted: 06/0: Analyzed: 06/0: on Factor: .94 ture : NA ment ID : T-05:	5/04 7/04 1/04 17:00 7/04 20:51 R
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4DINTICHLOROPHENOL 2.4DINTITROPOLUENE 2.5DINTITROPOLUENE 2.6DINTITROPOLUENE 2.6DINTITROPOLUENE 2.6DINTITROPOLUENE 2.6DINTITROPOLUENE 2.6DINTITROPOLUENE 2.6DINTITROPHENOL 2.METHYLNAPHTHALENE 2.METHYLNAPHTHALENE 2.METHYLPHENOL 2.MITROANILINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 4.CHLOROANILINE 4.CHLOROANILINE 4.CHLORO-3-METHYLPHENOL 4.CHLOROANILINE 4.CHLOROBHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.NITROPHENOL 4.CENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE BENZO(A)ANTERACENE BENZO(A)ANTERACENE BENZO(A)ANTERACENE BENZO(A)ANTERACENE BENZO(A)ANTERACENE BENZO(A)ANTERACENE BENZO(A)ANTERACENE BENZO(A)ANTERACENE BENZO(CA)ANTERNE BENZO(CA)ANTERNE BENZO(CA)ANTERNE BIS(2-CHLOROSIDPOPYL)ETHER BIS(2-CHLOROSIDPOPYL)ETHER BIS(2-CHLOROSIDPOPYL)ETHER BIS(2-CHLOROSIDPOPYL)ETHER BIS(2-CHLOROSITHALATE DIBENZOCA, H)ANTERACENE DIBENZOCA,	RESULTS RES	RL) 4444000,444400444444000000000000000000	L) - 7777446777774677777777777777777777777
RL: Reporting Limit (1): Capport be separated from 3-Methyl	nhanal		

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

. SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW. INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241 Sample ID: 86-S1-009 Lab Samp ID: E241-06 Lab File ID: RFK086 Ext Btch ID: SVF001W Calib. Ref.: REK313	Date Date Date Date Date Diluti - Matrix % Mois Instru	Collected: 05/26 Received: 05/27 Extracted: 06/01 Analyzed: 06/07 on Factor: 94 ture NA ment ID : T-052	/04 /04 /04 /04 /04 /04 /04 /04 /04 /04
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4-DIMETRYLPHENOL 2,4-DIMETRYLPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,6-DIMITROPHENOL 2,MITROPHENOL 2,MITROPHENOL 3,31-DICHLOROBENZIDINE 3,31-DICHLOROBENZIDINE 3,31-DICHLOROBENZIDINE 3,31-DICHLOROBENZIDINE 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,6-DIMITRO-2-METHYLPHENOL 4,7-DIMITRO-2-METHYLPHENOL 4,7-DIMITRO-2-METHYLPHENOL 4,7-DIMITRO-2-METHYLPHENOL 4,7-DIMITRO-2-METHYLPHENOL 4,7-DIMITRO-2-METHYLPHENOL 4,7-DIMITROPHENOL 4,7-DIMITROPHENOL 4,7-DIMITROPHENOL 5,7-DIMITROPHENOL 5,7-DIMITROPHENOL 5,7-DIMITROPHENOL 5,7-DIMITROPHENOL 5,7-DIMITROPHENOL 6,7-DIMITROPHENOL 6,7-DIMITROSOLPHENY 6,7-DIMITROPHENOL 6,7-DIMITROSOLPHENY 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 6,7-DIMITROSOLPHENOL 7,8-DIMITROSOLPHENOL 7,8-DIMITROSOLPHENOL 7,9-DIMITROSOLPHENOL 7,9-DIM	# Note	R) 4444000444404440000000000000000000000	DL1.77774467777677746777777777777777777777
9L: Reporting Limit	henol		

QL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E241

SW3520C/8081A PESTICIDES

Five (5) water samples were received on 05/27/04 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%: All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%.

Endrin and DDT breakdown were within QC limits.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

Lab Control Sample/Lab Control Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Client : TETRA TECH FW, INC.	Date Collected: 05/25/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/27/04
Batch No. : 04E241	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-004	Date Analyzed: 06/03/04 04:18
Lab Samp ID: E241-01	Dilution Factor: .94
Lab File ID: SF02038A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02030A	Instrument ID : GCT008

0.10.11157500	RESULTS	RLMDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .053	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4.4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(ND) ND	.094 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	83 (88)	30-130
DECACHLOROBIPHENYL	(74) 68	30-130

RL: Reporting limit
Left of | is related to first column; Right of | related to second column
() included the reported column

Client : TETRA TECH FW, INC. Date Collected: 05/25/04 Date Received: 05/27/04 : MFA, SITE 1, CTO 86 Project _ Date Extracted: 06/01/04 16:30 Batch No. : 04E241 Sample ID: 86-S1-006 Date Analyzed: 06/03/04 04:43 Dilution Factor: .94 Lab Samp ID: E241-03 : WATER Lab File ID: SF02039A Matrix % Moisture : NA Ext Btch ID: CPF001W Instrument ID : GCT008 Calib. Ref.: SF02030A ______

	RESULTS	RL ≖• MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PARAMETERS	(dg/L/	(49/1) (49/1)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .057	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	.013J (ND)	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094].0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4.41-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	(ND) ND	.094 .028].028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,41-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORD-M-XYLENE	(96) [95	30- 130
DECACHLOROBIPHENYL	(74) 67	30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column () included the reported column

Client : TETRA TECH FW, INC.	Date Collected: 05/25/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/27/04
Batch No. : 04E241	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-907	Date Analyzed: 06/03/04 05:09
Lab Samp ID: E241-04	Dilution Factor: .94
Lab File ID: SF02040A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02030A	Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .06	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094 .
GAMMA-CHLORDANE	(ND) ND	.047 .0094].0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	047 028 028
4.4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4.4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,41-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
	,	•
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	88 (90)	30-130
DECACHLOROBIPHENYL	(75) 67	30-130
	* *1	

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column



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Client : TETRA TECH FW, INC.	Date Collected: 05/25/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/27/04
Batch No. : 04E241	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-008	Date Analyzed: 06/03/04 05:34
Lab Samp ID: E241-05	Dilution Factor: .94
Lab File ID: SF02041A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02030A	Instrument ID : GCT008

	DECUL TO	RL MDL
	RESULTS	(ug/L) (ug/L)
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-8HC	(DN) (DN)	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .034J	.047 .0094 .0094
HEPTACHLOR	.014J (ND)	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094 .
GAMMA-CHLORDANE	.012J (ND)	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,41-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4.4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(MD) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) jnd	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT

TETRACHLORO-M-XYLENE	52 (53)	30-130
DECACHLOROBIPHENYL	(74) 65	30-130

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column



: TETRA TECH FW, INC. Date Collected: 05/26/04 Client Project : MFA, SITE 1, CTO 86
Batch No. : 04E241
Sample ID: 86-S1-009 Date Received: 05/27/04 Date Extracted: 05/21/04 16:30
Date Analyzed: 06/03/04 05:59
Dilution Factor: .94 Lab Samp ID: E241-06 : WATER Lab File ID: SF02042A Matrix Ext 8tch ID: CPF001W % Moisture : NA Calib. Ref.: SF02030A Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	.039J (ND)	.047 .0094 .0094
GAMMA-BHC (LINDANE)	L810. [(DN)	.047 .0094 .0094
BETA-BHC	(ND) .095	.047 .0094].0094
HEPTACHLOR	.037J (ND)	.047 .0094 .0094
DELTA-BHC	(ND) [.035J	.047 .0094 .0094
ALDRIN	.048 (ND)	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) .027J	.047 .0094 .0094
GAMMA-CHLORDANE	.051 (.053)	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094`
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	.032J (ND)	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	.034J (ND)	.094 .028 .028
ENDOSULFAN II	.023J (ND)	.094 .019 .019
4,41-DDT	(ND) ND	.094 .019].019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND)[ND	2.8 1.2 1.2
	P/ DESCRETA	OR LINET
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
	1001 100	70 470
TETRACHLORO-M-XYLENE	(98) 92	30-130
DECACHLOROBIPHENYL	64 (117)	30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

() included the reported column

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E241

SW3520C/8082 PCBs

Five (5) water samples were received on 05/27/04 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and all recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limits.

5. Lab Control Sample/Lab Control Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW3520C/8082 PCBs

Client : TETRA TECH FW, INC.
Project : MFA, SITE 1, CTO 86
Batch No. : 04E241
Sample ID: 86-S1-004 Date Collected: 05/25/04 Date Received: 05/27/04 Date Extracted: 06/01/04 16:30 Date Analyzed: 06/03/04 04:18 Dilution Factor: .94 Lab Samp ID: E241-01 : WATER Lab File ID: SF02038A Matrix % Moisture : NA Ext Btch ID: CPF001W Instrument ID : GCT008 Calib. Ref.: SF02033A

		- T *		
	RESULTS	RL	MDL	
PARAMETERS	(ug/L)	(ug/L)	(ug/L)	
PCB-1016	(ND) ND	.94	.24 .24	
PCB-1221	(ND) ND	.94	.24 .24	
PCB-1232	(ND) ND	.94	.24 .24	
CB-1242	(ND) ND	. 94	.24 .24	
PCB-1248	(ND) ND	.94	.24 .24	
PCB-1254	(ND) ND	.94	.24 .24	
PCB-1260 ·	(ND) ND	.94	.24 .24	
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT		
TETRACHLORO-M-XYLENE	(75) 82	30-130		
DECACHLOROBIPHENYL	(79) 72	30-130		

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column

() included the reported column
* Out side of QC Limit

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Client : TETRA TECH FW. INC.	Date Collected: 05/25/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/27/04
Batch No. : 04E241	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-006	Date Analyzed: 06/03/04 04:43
Lab Samp ID: E241-03	Dilution Factor: .94
Lab File ID: SF02039A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02033A	Instrument ID : GCT008
=======================================	

		-	
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
	- 		
PCB-1016	(ND)]ND	.94	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.94	.24 .24
PC8-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	-94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(88) 89	30-130	
DECACHLOROBIPHENYL	(78) 72	30-130	

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
() included the reported column
* Dut side of QC Limit

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Client : TETRA TECH FW, INC.	Date Collected: 05/25/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/27/04
Batch No. : 04E241	•
Sample ID: 86-S1-007	Date Analyzed: 06/03/04 05:09
Lab Samp ID: E241-04	Dilution Factor: .94
Lab File ID: SF02040A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02033A	Instrument ID : GCT008
	=======================================

		-	
	RESULTS	RL	MÐL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 -24
PC8-1221	(ND) ND	.94	-24 .24
PCB-1232	(ND) ND	-94	.24 .24
PCB-1242	(ND) ND	.94	.24 .24
PCB-1248	(ND) ND	-94	.24 .24
PCB-1254	(ND) ND	-94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
		•	
TETRACHLORO-M-XYLENE	(82) 84	30-130	
DECACHLOROBIPHENYL	(79) 71	30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit

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Client : TETRA TECH FW, INC.	Date Collected: 05/25/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/27/04
Batch No. : 04E241	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-008	Date Analyzed: 06/03/04 05:34
Lab Samp ID: E241-05	Dilution Factor: .94
Lab File ID: SF02041A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02033A	Instrument ID : GCT008

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RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit

Client : TETRA TECH FW, INC.	Date Collected: 05/26/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/27/04
Batch No. : 04E241	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-009	Date Analyzed: 06/03/04 05:59
Lab Samp ID: E241-06	Dilution Factor: .94
Lab File ID: SF02042A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02033A	Instrument ID : GCT008

	RESULTS	RL [▼]	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.9 4	.24 .24
PC8-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(87) 87	30-130	
DECACHLOROBIPHENYL	(71) 125	30-130	

RL: Reporting Limit

Left of | is related to first column; Right of | related to second column

() included the reported column

* Out side of QC Limit

COLUMBIA ANALYTICAL SERVICES, INC.

Client: Project:

EMAX Laboratories MFA Site 1, CTO 86

Service Request No.: Date Received:

K2403969 5/29/04

Sample Matrix:

Water

CASE NARRATIVE

All analyses were performed consistent with the qualify assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Five water samples were received for analysis at Columbia Analytical Services on 5/29/04. No discrepancies were noted upon initial sample inspection. All samples were received in good condition and consistent with the accompanying chain of custody forms. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Due to the nature of the sample matrices and additional project information received from the client on 6/3-4/04, additional analyses were subsequently authorized via email on 6/11/04. Other analyses were authorized via email on 6/16/04. Copies of all emails are included in the chain of custody section as supporting documentation.

Dissolved Metals

Sample Notes and Discussion:

Due to the high salinity of the water samples, CAS was not able to analyze the samples as initially requested by EPA 200.8 without additional pretreatment. As discussed with the client, the samples were analyzed using a combination of analytical techniques to meet a variety of project DQO requirements.

In the first approach, the samples were analyzed by ICP per EPA method 6010 (for Al, Sb, Ba, Be, Cd, Cr, Pb, Ni, Ag, Tl, V, Zn) and by GFAA for Arsenic (EPA method 7060A), Copper (EPA method 7211) and Lead (EPA method 7211).

After further discussion with the client, a second approach was designed to achieve lower method reporting limits in the highly saline sample matrix. All samples were pretreated by reductive precipitation using EPA method 1640 and analyzed by ICP/MS EPA method 200.8 for As, Sb, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni (quantified using isotope dilution), Ag, and Tl. In addition, Selenium was analyzed by hydride EPA method 7742.

A separate data package has been prepared for each analytical approach described above. Please note that samples were analyzed for Aluminum, Vanadium and Zinc only one time using ICP EPA method 6010B. However, results for these analytes have been included in both metals data packages.

Matrix Spike Recovery Exceptions:

The matrix spike recovery of Copper by EPA method 7211 for the Batch QC sample was outside the CAS control criteria because of matrix interference. The sample contained elevated levels of Total Dissolved Solids (TDS), which caused chemical and physical interference related to atomization and subsequent atomic absorption. The associated QA/QC results (i.e. LCS, CCV, etc.) indicate the analysis was in control. The low recovery suggests a similar low bias in the unspiked sample as well. No further corrective action was appropriate.

Approved by a Mi Gui

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The matrix spike recovery of Selenium by EPA method 7740 for the Batch QC sample is not applicable. The analysis of this sample required a dilution such that the added spike concentration was diluted below the Method Reporting Limit (MRL). No further corrective action was taken.

The matrix spike recovery of Arsenic by EPA method 200.8 for the Batch QC sample was outside control criteria. Recoveries in the Laboratory Control Samples (LCS) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by all gut

Date 7/6/07

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403969

Project No.:

04E247

Date Collected:

05/25/04

Project Name: MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

WATER

Units: μg/L

Basis: • NA

Sample Name: 86-S1-004

Lab Code: K2403969-001 DISS

Analyte	Analysis Method	MRL	WDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	σ	
Antimony	6010B	50	20	1	6/22/04	6/29/04	20	σ	
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	5.0	ט	
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	74.9		
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	ט	
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	υ	
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	ט	ŀ
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	13.6		
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.7	В	N
Lead	6010B	50	20	1	6/22/04	6/29/04	20	υ	
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	11.8	В	
Selenium	7740	40.0	20.0	20	6/22/04	6/30/04	20.0	ַ ט	ĺ
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	บ	
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	ט	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	ซ	
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	4.0	В	

% Solids:

0.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403969

Project No.:

04E247

Date Collected:

05/25/04

Project Name: MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

WATER

Units: µg/L

Basis: • NA

Sample Name: 86-S1-006

Lab Code: K2403969-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	υ	
Antimony	6010B	50	20	1	6/22/04	6/29/04	24.3	В	
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	5.5	В	
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	136		
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	ט	
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	υ	
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	U	
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	12.6		
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	U	N
Lead	6010B	50	20	1	6/22/04	6/29/04	20	ប	
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	5.5	В	
Selenium	7740	40.0	20.0	20	6/22/04	6/30/04	20.0	ប	
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	บ	
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	ប	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	9.0	В	
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	3.0	U	

% Solids:

0.0

Comments:

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403969

Project No.:

04E247

Date Collected: 05/25/04

Project Name: MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

WATER

Units: µg/L

Basis: •NA

Sample Name: 86-S1-007

Lab Code: K2403969-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	ט	
Antimony	6010B	50	20	1	6/22/04	6/29/04	20	U	
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	6.0	В	
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	135		
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	ט	
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	ט	
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	ט	
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	12.9		
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	ט	N
Lead	6010B	50	20	1	6/22/04	6/29/04	20	υ	
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	7.5	В	
Selenium	7740	40.0	20.0	20	6/22/04	6/30/04	20.0	ט	
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	Ū	
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	ט	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	ט	
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	3.0	υ	

% Solids:

0.0

Comments:

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INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403969

Project No.:

04E247

Date Collected: 05/25/04

Project Name: MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

WATER

Units: µg/L

Basis: •NA

Sample Name: 86-S1-008

Lab Code: K2403969-004 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	ט	
Antimony	6010B	50	20	1	6/22/04	6/29/04	21.0	В	
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	5.0	ט	
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	66.2		
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	ט	
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	U	
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	ט	
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	9.5	В	
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	ט	N
Lead	6010B	50	20	1	6/22/04	6/29/04	20	ט	
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	44.7		
Selenium	7740	40.0	20.0	20	6/22/04	6/30/04	20.0	ש	
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	ט	
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	ט	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	ט	
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	59.9	<u> </u>	

% Solids:

0.0

Comments:

DISSOLVED METALS

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403969

Project No.:

04E247

Date Collected: 05/25/04

Date Received: 05/29/04

Project Name: MFA, Site 1, CTO 86

Units: µg/L

Basis: NA

Matrix:

WATER

Sample Name: 86-S1-009

Lab Code: K2403969-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	ט	
Antimony	6010B	50	20	1	6/22/04	6/29/04	28.1	В	
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	5.0	Ū	
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	326		
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	ŭ	
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	Ū	
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	9.5		
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	4.5	В	
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	Ū	N
Lead	6010B	50	20	1	6/22/04	6/29/04	20	บ	
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	101		
Selenium	7740	40.0	20.0	20	6/22/04	6/30/04	20.0	ט	
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	U	
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	ט	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	ט	
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	46.5		

% Solids:

0.0

Comments:

DISSOLVED METALS

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403969

Project No.:

Date Collected: NA

Project Name: MFA, Site 1, CTO 86

Date Received: NA

Matrix:

WATER

Units: µg/L

Basis: •NA

Sample Name: Method Blank

Lab Code: K2403969-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	บ	
Antimony	6010B	50	20	1	6/22/04	6/29/04	20	U	
Arsenic	7060A	2.0	1.0	1	6/7/04	6/17/04	1.0	U	
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	1.0	Ū	
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	U	
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	U	
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	ט	
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	2.0	Ū	
Copper	7211	1.0	0.3	1	6/22/04	6/22/04	0.3	ū	N
Lead	6010B	50	20	1	6/22/04	6/29/04	20	U	
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	3.0	Ū	
Selenium	7740	2.0	1.0	1	6/22/04	6/30/04	1.0	U	
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	Ū	
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	U	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	ŭ	
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	3.0	U	

% Solids:

0.0

Comments:

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E241

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Five (5) water samples were received on 05/27/04 for Dissolved Mercury Analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the control limits.

4. Serial Dilution

Sample E241-01 was analyzed for serial dilution. % Difference was not evaluated since diluted sample result was not detected. Analytical spike was performed and met the QC limits.

Matrix Spike/Matrix Spike Duplicate

MS/MSD sample was not designated in this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Client Project Batch No.	Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E241								•	Matrix Instrum	nent ID	: WATER : T1047
	FMAX	RESULTS		퓚	Æ	Analysis	Extraction				Collection	Received
SAMPLE ID	SAMPLE 10	(ng/L)	DI.F MOIST	3	(ng/L)	DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME
		:	:	:	:		:::::::::::::::::::::::::::::::::::::::	:::		:::::::::::::::::::::::::::::::::::::::		
WRI K1W		S	NA I	۲,		06/08/0410:49	06/07/0415:00	M47F009010	M47F009008	HGF008W	NA	06/07/04
MLSO		4.72	1 NA	?	-	06/08/0410:52	06/07/0415:00	M47F009011	M47F009008	HGF008W	¥	06/07/04
CD1W		4.76	1 NA	?	-	06/08/0410:54	06/07/0415:00	M47F009012	M47F009008	HGF008W	¥	06/07/04
36-S1-004AS		88	20 NA	4	7	06/08/0412:30	06/07/0415:00	M47F009056	M47F009054	HGF008W	05/25/04	05/27/04
36.51.004		S	20 NA	₹	2	06/08/0412:32	06/01/0415:00	M47F009057	M47F009054	HGF008W	05/25/04	05/27/04
86-S1-004DL	E241-017	2	100 NA	20	10	06/08/0412:34	06/07/0415:00	M47F009058	M47F009054	HGF008W	05/25/04	05/27/04
36-51-006		Q	20 NA	4	7	06/08/0412:36	06/07/0415:00	M47F009059	M47F009054	HGF008M	05/25/04	05/27/04
86-51-007		2	20 NA	4	2	06/08/0412:39	06/07/0415:00	M47F009060	M47F009054	HGF008W	05/25/04	05/27/04
86-51-008		2	20 NA	4	2	06/08/0412:41	06/07/0415:00	M47F009061	M47F009054	HGF008W	05/25/04	05/27/04
86.51.000		£	20 NA	4	~	06/08/0412:43	06/07/0415:00	M47F009062	M47F009054	HGF008W	05/26/04	05/27/04

RL: Reporting Limit

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 25 through May 26, 2004

LDC Report Date:

July 6, 2004

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E241

Sample Identification

86-S1-004

86-S1-006

86-S1-007**

86-S1-008

86-S1-009



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions5and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	 Analytə	MS (%R) (Limite)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-010MS/MSD (All samples in SDG 04E241)	Mercury	66 (75-125)	64 (75-125)	•	J (all detects) UJ (all non-detects)	A

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-006 and 86-S1-007** were identified as field duplicates. No mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 04E241

SDG	Sample	Analyte	Flag	A or P	Reason
04E241	86-S1-004 86-S1-006 88-S1-007** 86-S1-008	Mercury	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)
	86-S1-009	1			

Moffett Airfield, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 04E241

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 25, 2004

LDC Report Date:

July 8, 2004

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level III & IV

Laboratory:

Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K2403969

Sample Identification

86-S1-004

86-S1-006

86-S1-007**

86-S1-008

86-S1-009

86-S1-004RE

86-S1-006RE

86-S1-007RE**

86-S1-008RE

86-S1-009RE

86-S1-004MS

86-S1-004DUP

86-S1-004REMS

86-S1-004REDUP



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 200.8 and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Chromium Copper (2x)	2.2 ug/L 1.0 ug/L	86-S1-004 86-S1-006 86-S1-007** 86-S1-008 86-S1-009
PB (prop blank)	Beryllium Nickel Thallium	0.004 ug/L 0.09 ug/L 0.001 ug/L	86-S1-004RE 86-S1-006RE 86-S1-007RE** 86-S1-008RE 86-S1-009RE
ICB/CCB	Antimony Boryllium Selenium Thallium	0.02 ug/L 0.011 ug/l 0.2 ug/L 0.017 ug/L	86-S1-004RE 86-S1-006RE 86-S1-007RE** 86-S1-008RE 86-S1-009RE

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-\$1-004	Copper	0.7 ug/L	0.7U ug/L
86-S1-009	Chromium	9,5 ug/L	9.5U ug/L
86-S1-004RE	Beryllium	0.009 ug/L	0,009U ug/L
86-S1-006RE	Antimony (2x) Beryllium Thallium	0.90 ug/L 0.010 ug/L 0.006 ug/L	0.90U ug/L 0.010U ug/L 0.006U ug/L
86-S1-007RE**	Antimony (2x) Beryllium Thallium	0.90 ug/L 0.011 ug/L 0.006 ug/L	0.90U ug/L 0.011U ug/L 0.006U ug/L
86-S1-C08RE	Antimony (2x) Beryllium	0.93 ug/L 0.006 ug/L	0.93U ug/L 0.006U ug/L
86-S1-009RE	Antimony (2x) Thallium	0,65 ug/L 0,002 ug/L	0.65U ug/L 0.002U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
86-S1-004MS (86-S1-004 86-S1-006 86-S1-007^^ 86-S1-008 86-S1-009)	Copper	72 (75-125)	J (all detects) UJ (all non-detects)	А
86-S1-010RE (86-S1-004RE 86-S1-006RE 86-S1-007RE^ 86-S1-009RE 86-S1-009RE)	Arsenic Cobatt Zinc	31 (75-125) 66 (75-125) 67 (75-125)	J (all detects) UJ (all non-detects)	A

VI.-Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits with the following exceptions:

Sample	Internal Standard	%R (Limits)	Analyte	Flag	A·or P
86-S1-007RE**	Indium 115	154,3 (60-125)	Antimony Barium	J (all detects) J (all detects)	A
86-S1-007RE**	Scandium 45 Nickel 61 Indium 115 Lutetium 175	130.2 (60-125) 188.8 (60-125) 139 (60-125) 149.5 (60-125)	Arsenic Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A

IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed with the following exceptions:

Analytical Spike	- Analyte	(etimil) Fl%	Associated Sample	Flag	A or P
86-S1-004A	Arsenic Copper Selenium	80.0 (85-115) 77.3 (85-115) 78.0 (85-115)	86-S1-004 86-S1-006 60-S1-007** 86-S1-008 86-S1-009	J (all detects) UJ (all non-detects)	Α

Raw data were not evaluated for samples reviewed by Level III criteria.

- X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-006 and 86-S1-007** and samples 86-S1-006RE and 86-S1-007RE** were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentr	ation (ug/L)	
Analyte	86-\$1-006	86-S1-007**	RPD
Antimony	24.3	20U	Not calculable
Arsenic	5.5	6.0	9
Barjum	136	135	1
Cobalt	12.6	12.9	2
Nickel	5.5	7.5	31
Vanadium	9.0	6.0U	Not calculable

	Concentr	ation (ug/L)	
Analyte	86-S1-006RE	86-S1-007RE**	RPD
Antimony	0.90	0.90	O
Arsenic	5.35	4,92	8
Barium	152	155	2
Beryllium	0,010	0.011	10

Maria ran	Concentrati	on (ug/L)	
Analyte	86-S1-006RE	86-S1-007RE**	RPD
Calcium	0.011	0,009	20
Chromium	0.56	0.54	4
Cobalt	7.16	7.69	7
Copper	0.14	0.11	24
Lead	0.020	0.022	10
Nickel	9.47	9.72	3
Silver	0.016	0.033	69
Thallium	0.006	0.006	0
Vanadium	9.0	6.0U	Not calculable
Zinc	1.22	1.19	2

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Metals - Data Qualification Summary - SDG K2403969

SDG	Sample	Analyte	Flag	A or P	Reason
K2403969	86-S1-004 86-S1-006 86-S1-007** 86-S1-008 86-S1-009	Copper	J (all detects) UJ (all non-detects)	A	Matrix spike analysis (%R)
K2403969	86-S1-004RE 86-S1-006RE 86-S1-007RE** 86-S1-009RE 86-S1-009RE	Arsenic Cobalt Zinc	J (all detects) UJ (all non-detects)	А	Matrix spike analysis (%R)
K2403969	86-S1-007RE**	Antimony Barium Arsenic Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	Α	Internal standards (area)
K2403969	86-S1-004 86-S1-006 86-S1-007** 86-S1-008 86-S1-009	Arsenic Copper Selenium	J (all detects) UJ (all non-detects)	А	Furnace atomic absorption QC (%R)

Moffett Airfield, CTO 86 Metals - Laboratory Blank Data Qualification Summary - SDG K2403969

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2403969	86-S1-004	Copper	0.7U ug/L	, A
K2403969	86-S1-009	Chromium	9.5U ug/L	А
K2403969	86-S1-004RE	Beryllium	0.009U ug/L	Α
K2403969	86-S1-006RE	Antimony (2X) Boryllium Thallium	0.90U ug/L 0.010U ug/L 0.006U ug/L	A

SDG Sample		Analyte	Modified Final Concentration	A or P	
K2403969	86-S1-007HE**	Antimony (2x) Beryllium Thallium	0.90U ug/L 0.011U ug/L 0.006U ug/L	A	
K2403969	86-S1-008RE	Antimony (2x) Beryllium	0.93U ug/L 0.006U ug/L	• A	
K2403969	86-S1-009RE	Antimony (2x) Thallium	0.65U ug/L 0.002U ug/L	А	

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 25, 2004

LDC Report Date:

July 1, 2004

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E241

Sample Identification

86-S1-004

86-S1-006

86-S1-007**

86-S1-008

86-S1-009



^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 86-S1-006 and 86-S1-007** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86
Polychlorinated Biphenyls - Data Qualification Summary - SDG 04E241

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 86
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 04E241

No Sample Datā Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 25, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E241

Sample Identification

86-S1-004

86-S1-006

86-S1-007**

86-S1-008

86-S1-009



^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
6/3/04	SF02031A	RTX-CLP	4,4'-DDE 4,4'-DDD Methoxychlor	16 17 20	86-S1-004 86-S1-006 86-S1-007** 86-S1-008 86-S1-009	J (all detects) UJ (all non-detects)	А
6/3/04	SF02031A	RTX-CLPII	Methoxychlor	15,4	86-S1-004 86-S1-006 86-S1-007** 86-S1-008 86-S1-009	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 86-S1-006 and 86-S1-007** were identified as field duplicates. No chlorinated pesticides were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 04E241

SDG	Sample	Compound	Flag	A or P	Reason
04E241	86-S1-004 66-S1-006 86-S1-007** 86-S1-008 86-S1-009	4,4'-DDE 4,4'-DDD Methoxychlor	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

Moffett Airfield, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 04E241

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Field, CTO 86

Collection Date:

May 25, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E241

Sample Identification

86-S1-004

86-S1-006

86-S1-007**

86-S1-008

86-S1-009



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 5 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

!. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for selected compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-006 and 86-S1-007** were identified as field duplicates. No semivolatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Field, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04E241

No Sample Data Qualified in this SDG

Moffett Field, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04E241

No Sample Data Qualified in this SDG



LDC Report# 12145B1

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 25, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E241

Sample Identification

86-S1-004

86-S1-015

86-S1-006

86-S1-007**

86-S1-008

86-S1-009



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions: o

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A MAR
86-\$1-004 86-\$1-006 86-\$1-007** 86-\$1-009	All TCL compounds	8	7	J (all detects) UJ (all non-detects)	P

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) was less than or equal to 15.0% and less than or equal to 30.0% for individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected samples. The coefficient of determination (r2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
6/1/04	Dichlorodifluoromethane Naphthalene	44.4 26.4	86-S1-015 MBLK1W	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A
6/2/04	Dichlorodifluoromethane	37.1	86-S1-004 86-S1-006 86-S1-007** 86-S1-008 86-S1-009 MBLK2W	J (all detects) UJ (all non-detects)	A

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
5/27/04	Chloromethane Vinyl chloride 1,1-Dichloropropene n-Butylbenzene	25.0 20.6 23.8 22.1	All samples in SDG 04E241	J (all detects) UJ (all non-detects)	Р

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-006 and 86-S1-007** were identified as field duplicates. No volatiles were detected in any of the samples.

XVII. Field Blanks

Sample 86-S1-015 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Airfield, CTO 86 Volatiles - Data Qualification Summary - SDG 04E241

SDG	Sample	Compound	Flag	A or P	Reason
04E 241	86-S1-004 86-S1-006 86-S1-007** 86-S1-009	AllITCL compounds	J (all detects) UJ (all non-detects)	P	Technical holding times
04E241	86-\$1-015	Dichlorodifluoromethane Naphthalene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
04E241	86-S1-004 86-S1-006 86-S1-007** 86-S1-008 86-S1-009	Dichlorodifluoromethane	J (all detects) UJ (all non-detects)	А	Continuing calibration (%D)
04E241	86-S1-004 86-S1-015 86-S1-006 86-S1-007** 86-S1-008 86-S1-009	Chloromethane Vinyl chloride 1,1-Dichloropropene n-Butylbenzene	J (all detects) UJ (all non-detects)	Р	Continuing calibration (ICV %D)

Moffett Airfield, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 04E241

No Sample Data Qualified in this SDG

1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

NUMBER 04867

CHAIN-OF-CUSTODY RECORD

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y Report MFA, Site 1, CTO 86

oratory report for samples received on reported include :

Control # Col Date Matrix Analysis

E247-01	05/26/04	WATER	VOLATILE ORGANICS BY GC/MS PESTICIDES ORGANOCHLORINE POLYCHLORINATED BIPHENYLS (PCBS METALS DISSOLVED BY ICP* MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
E247-02	05/26/04	WATER	VOLATILE ORGANICS BY GC/MS
E247-03	05/26/04		
E247-04	05/26/04	WATER	

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CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E247

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Five (5) water samples were received on 05/28/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Samples E247-01, -03, -04 and -05 were labeled HCl preserved but had pH around 7. Samples were analyzed within 7 days.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample E247-01 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 04E247 Sample ID: 86-51-010 Lab Samp ID: E247-01 Lab File ID: RF9011 Ext Btch ID: v003F01 Calib. Ref.: R09134	Date (Date (Date E Date Date Date Diluti Matrix X Moist Instrum	Collected: 05/2/ Received: 05/2/ Extracted: 06/0' Analyzed: 06/0' Factor: 1 HATEL Lure: NA Ment ID: T-00'	R
PARAMETERS 11.1.2-TETRACHLOROETHANE 11.1.2.TRICHLOROETHANE 11.2.TRICHLOROETHANE 11.2.TRICHLOROETHANE 11.2.TRICHLOROETHANE 11.2.TRICHLOROETHANE 11.2.TRICHLOROBENZENE 11.2.TRICHLOROBENZENE 12.4.TRICHLOROBENZENE 12.4.TRICHLOROBENZENE 12.4.TRICHLOROBENZENE 12.4.TRICHLOROBENZENE 12.5.DIGHLOROBENZENE 12.5.DIGHLOROBENZENE 12.5.DIGHLOROBENZENE 13.5.TRIMETHYLBENZENE 13.TRIMETHYLBENZENE 13.5.TRIMETHYLBENZENE 13.5.TRIMETHYLBENZENE 13.TRIMETHYLBENZENE 13.5.TRIMETHYLBENZENE 13.TRIMETHYLBENZENE 1	## 1589/1	RL) ;	สา สิกา สิกา สิกา สิกา สิกา สิกา สิกา สิ
R.L.: Reporting limit * Out of QC E	,		

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SW 50308/82608 VOLATILE ORGANICS BY GC/MS

Client : TETRA TECK FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E247 Sample 1D: 86-51-016 Leb Samp ID: E247-02 Leb File ID: RF0009 Ext Btch ID: V003F01 Calib. Ref.: R0a134	Date E Date	n rector: : WATE ure : NA	
***************************************	# Y	אלין ייניין בייניין איניינייניינייניינייניינייניינייניינייני	อาการการการการการการการการการการการการการ
1.2-DICHLDROETHANE-D4 TOLUENE-D8 BROWDFLUOROBENZEME R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blank J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out	1 <u>02</u> 97	62-139 75-125 75-125	

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SW 50308/82608 VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No : 04E247 Sample ID: 86-51-011 Lab Samp ID: E247-03 Lab File ID: RFQ012 Ext Btch ID: V003F01 Calib. Ref.: R00134	Date Collected: 05/28/04 Date Received: 05/28/04 Date Received: 05/28/04 Date Extracted: 06/01/04 22:18 Date Analyzed: 06/01/04 22:18 Dilution Factor: 1 Matrix: MATER X Moisture: NA Instrument ID: T-005
PARAMETERS 1 1 2-TETRACHLOROETHANE 1 1 1-TRICHLOROETHANE 1 1 2-TRICHLOROETHANE 1 1 1-DICHLOROETHANE 1 1-DICHLOROETHANE 1 1-DICHLOROETHANE 1 1-DICHLOROETHANE 1 1-DICHLOROETHANE 1 1-DICHLOROETHANE 1 1-DICHLOROETHANE 1 2-DICHLOROBENZENE 1 2-TRICHLOROBENZENE 1 2-TRICHLOROBENZENE 1 2-DICHLOROENEZNE 1 2-DICHLOROENEZNE 1 2-DICHLOROENEZNE 1 2-DICHLOROENEZNE 1 2-DICHLOROPROPANE 1 2-DICHLOROPROPANE 1 3-DICHLOROPROPANE 1 3-DICHLOROPROPANE 1 3-DICHLOROBENZENE 1 3-DICHLOROPROPANE 2 2-DICHLOROPROPANE 2 2-DICHLOROPROPANE 2 3-BITANONE 2 -CHLOROTOLUENE 2 -NEXAMONE 4 -CHLOROTOLUENE 4 -METHYL 2-PENTANONE ACETONE BROMOGHUROMETHANE BROMOGHUROMETHANE BROMOGHUROMETHANE BROMOGHUROMETHANE BROMOGHUROMETHANE BROMOGHUROMETHANE BROMOGHUROMETHANE CARBON DISULFIDE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROPORM CHLOROPORM CHLOROBENZENE CHLOROETHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DIBROMOGHTHANE DISUROMOGHTHANE N-PATYLEMES METHYLEME CHLORIDE N-POTYLEMEZENE N-PATYLEMESENE N-PATYLEME N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE N-PATYLEMESENE	RESULTS (Ug/L) (
1,2-DICHLOROETHANE-D4 TÖLUENE-DB BROWGFLUOROBENZENE R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blan J : Value between R.L. and MDL D : Value from dilution analysis D.G.: Diluted out	75-125 90 75-125 ,

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SW 5030B/8260B VOLATILE ORGANICS BY GC/NS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No : 04E247 Sample ID: 86-S1-012 Lab Samp ID: E247-04 Lab File ID: RFQ013 Ext Btch ID: V003F01 Calib. Ref.: RDQ134	Date Collected: 05/26/04 Date Received: 05/28/04 Date Extracted: 06/01/04 22:57 Date Analyzed: 06/01/04 22:57 Dilution Factor: 1 Matrix Water X Moisture : NA Instrument ID : T-005
PARAMETERS 1. 1.2-TETRACHLOROETHANE 1. 1.2-TEICHLOROETHANE 1. 1.2-TEICHLOROETHANE 1. 1.2-TEICHLOROETHANE 1. 1.2-TEICHLOROETHANE 1. 1.2-TEICHLOROETHANE 1. 1.2-TEICHLOROPROPENE 1. 1.3-TEICHLOROPROPANE 1.2-TEICHLOROPROPANE 1.2-TEICHLOROPROPANE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.2-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 1.3-TEICHLOROBENZENE 2.2-TEICHLOROBENZENE 2.2-TEICHLOROPOPANE 2.3-TEICHLOROPOPANE 2.3-TEICHLOROPOPANE 2.4-TEICHLOROPOPANE 2.4-TEICHLOROPENZENE 2.4-TEICHLOROPOPANE 2.5-TEICHLOROPENZENE 2.5	RESULT SUPPLEMENTATION OF THE PROPERTY OF THE
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blank J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out	

1/6/07

SW 50308/8260B VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 045247 Sample ID: 86-51-013 Lab Samp ID: E247-05 Lab Fite ID: RF0014 Ext Btch ID: V003F01 Calib. Ref.: RD0134	Date Collected: 05/26/04 Date Received: 05/28/04 Date Extracted: 06/01/04 23:36 Date Analyzed: 06/01/04 23:36 Dilution Factor: 1 Matrix : MATER % Moisture : NA Instrument ID : T-005
PARAMETERS 1, 1, 2-TETRACHLOROETHANE 1, 1, 1-TRICHLOROETHANE 1, 1, 2-TETRACHLOROETHANE 1, 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROPENE 1, 2, 3-TRICHLOROBENZENE 1, 2, 3-TRICHLOROBENZENE 1, 2, 3-TRICHLOROBENZENE 1, 2, 1-TRICHLOROBENZENE 1, 2-DICHLOROBENZENE 1, 2-DICHLOROBENZENE 1, 2-DICHLOROPENZENE 1, 2-DICHLOROPENZENE 1, 2-DICHLOROPROPANE 1, 2-DICHLOROPROPANE 1, 2-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 3-DICHLOROBENZENE 2, 2-DICHLOROBENZENE 2, 2-DICHLOROPROPANE 2, 2-DICHLOROP	#####################################
SURROGATE PARAMETERS 1.2-DICHLOROETHANE-D4 TOLUENE-D8 BROMOFLUOROBENZENE	7. RECOVERY 9C LIMIT 113 62-139 103 75-125 103 75-125
R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blar J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out	sik

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CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E247

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Four (4) water samples were received on 05/28/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3^{rd} ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample E247-01 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04E247 Sample ID: 86-81-010 Lab Samp ID: E247-01 Lab File ID: RFKD87 Ext Stch ID: SVF001W Calib. Ref.: REK313	Date Date Date Date Dituti Matrix % Mois Instru	Collected: 05/2 Received: 05/2 Extracted: 06/6 Analyzed: 06/6 on Factor: 94 ture HA ment ID: T-05	6/04 8/04 1/04 17:00 17/04 21:50 ER
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DICHLOROPHENOL		RL1-4444000444440044444044444444444444444	N) 7477446777774677777777777777777777777

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

1/4/64

3004

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04E247 Sample 10: 86-51-011 Lab Samp ID: E247-03 Lab File ID: RFK090 Ext Stch ID: SVF001W Calib. Ref.: REK313	Date Date Date Date Date Date X Mora	Collected: 05/2 Received: 05/2 Extracted: 06/0 Analyzed: 06/0 on Factor: 94 ture: NA ment ID: I-05	
PARAMETERS	RESULTS (ug/L)	(ug/L)	MDL (ug/L) 4.7
2.4.5-TRICHLOROPHENOL 2.4-5 ICHLOROPHENOL 2.4-5 IMETHYLPHENOL		6:7 6:4 9:4	4.7 4.7 9.4
2,4-DINITROPERUL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLORONAPHTNALENE	ND ND ND	19 19 9-4 9-4	5.4 4.7 4.7
Z-METHYLHAPHTHALENE Z-METHYLPHENDL Z-NITROANILINE	ND ND ND ND ND	9-4 19 9-4	4.7 5.6 4.7
3.31-DICHLOROBENZIDINE 3.41-DICHLOROBENZIDINE 4.6-DINITRO-Z-METHYLPHENOL 4.50-DINITRO-Z-METHYLPHENOL 4.50-DINITRO-Z-METHYLPHENOL 4.50-DINITRO-Z-METHYLPHENOL	ND ND ND	9.4 19 19	4.7 9.4 6.6
4-CHLORO-3-METHYLPHENOL 4-CHLORO-AILINE 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER	ND ND ND ND ND	44440004440000000000000000000000000000	4:7 4:7 4:7
4-NITROANILINE 4-NITROANILINE ACENAPHTHENE ACENAPHTHYLENE	ND ND	9 14 9 19 9 4 9 4	4.7 4.7 4.7
ANTHRACENE BENZO(A) JANTHRACENE. BENZO(A) PYRENE BENZO(B) FLUORANTHENE	ND RD ND ND	9-4 9-4	4 7 4 7 2 7
BENZO(K)FLUORANTHENE BENZO(G,H,I)PERYLENE BIS(Z-CHLOROETHOXY)METHANE BIS(Z-CHLOROETHYL)ETHER	ND ND	0000 24 24	\$ - 7 \$ - 7 \$ - 7
BIS(2-CHLURGISOPROFIL)EINER BIS(2-CHWYLHEXYL)PHIHALATE BUTYLBENZYLPHIHALATE CHRYSENE CHRYSENE		9.4 9.4 9.4	9.4 7.7 4.7
DI-N-OCTYLPHINALATE DIBENZO(A, H)ANTHRACENE DIBENZOFURAN DISENZOFURAN DISTRIPTION DATA	ND NO NO NO	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	PPPP-4400-PPP-COPPPP-440PPP-PPP-PPP-PPP-PPP-PPP-PPP-PPP-
DINETHYLPHTHALATE FLUORANTHENE FLUORENE FLUORENE HEXACHI ORGBENZENE	ND ND ND ND	9.4 9.4 9.19	44.7 44.7 5.7
HEXACHLOROCYCLOPENTADIENE HEXACHLOROCYTLOPENTADIENE INDEMO(1,2,3-CD)PYRENE ISOPHOROME	NO NO NO NO	9999	4.7 4.7 4.7
M-NITROSO-DI-M-PROPTLAMINE W-NITROSODIPHENYLAMINE (2) MITROBENZENE PENTACHLOROPHENOL	ND ND ND	5:7 9:44 19	4.7
PHENDAI INKENE PHENDI PYRENE 1 1 - BIPHENYL	ND ND ND ND	0044	4.7 4.7 2.3
2.4.5 TRICHLOROPHENOL 2.4.6 TRICHLOROPHENOL 2.4.0 INETHYLPHENOL 2.4.0 INTROPHENOL 2.4.0 INTROPHENOL 2.4.0 INTROPHENOL 2.4.0 INTROPHENOL 2.4.0 INTROPHENOL 2.4.0 INTROPHENOL 2.4.0 INTROPHENOL 2.4.0 INTROPHENOL 2.4.1 TROPHENOL 2.4.1 TROPHENOL 2.4.1 TROPHENOL 2.4.1 TROPHENOL 2.4.1 TROPHENOL 3.4.1 TROPHENOL 4.5.0 INTRO-2.4 METHYLPHENOL 4.5.0 INTRO-2.4 METHYLPHENOL 4.5.0 INTRO-2.4 METHYLPHENOL 4.5.0 INTRO-2.4 METHYLPHENOL 4.5.0 INTRO-2.4 METHYLPHENOL 4.5.0 INTRO-2.4 METHYLPHENOL 4.5.1 TROPHENOL 4.6 INTROPHENOL 4.6 ITROPHENOL 6.6 ITROPHENOL 6.6 ITROPHENOL 6.6 ITROPHENOL 6.6 ITROPHENOL 6.6 ITROPHENOL 6.6 ITROPHENOL 6.7 ITROBENZENE 6.7 ITROBENZENE 6.7 ITROBENZENE 6.8 ITROPHENOL 6.8 ITROPHENOL 6.8 ITROPHENOL 6.9		19 9.4 9.4	2.4 4.7 4.7
SURROGATE PARAMETERS	% RECOVERY	90 LINIT 25-134	
2,4,6-TRIBROMOPHENOL 2-FLUOROPHENOL 3-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	94 74 61 70 88	25-134 135-135-135-135-135-135-135-135-135-135-	
TERPHENYL-D14 RL: Reporting Limit	benel /	71 120	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

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3005

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 046247 Sample ID: 86-81-012 Lab Samp ID: E247-04 Lab File ID: RFK091 Ext Btch ID: SVF001W Calib. Ref.: REK313	Date (Date (Date Date Date Date Date Diluting Matrix % Mois Instru	Collected: 05/2 Received: 05/2 Rxtracted: 06/0 Analyzed: 06/0 on Factor: .94 ture: NA ment ID: I-05	6/04 8/04 1/04 1/04 1/04 23:51 R
	RESULTS	Dt .	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PARAMETERS 2.4,5-TRICHLOROPHENGL 2.4,5-TRICHLOROPHENGL 2.4,5-TRICHLOROPHENGL 2.4,5-DINITROPHENGL 2.4,5-DINITROPHENGL 2.4,5-DINITROPHENGL 2.4,5-DINITROPHENGL 2.5-DINITROTCLUENE 2.5-DINITROTCLUENE 2.5-CHLOROPHENGL 2.5-MITROPHENGL 2.5-MITROPHENGL 3.1-DICHLOROBENZIDINE 4.2-DICHLOROBENZIDINE 4.2-DICHLOROBENZIDINE 4.2-DICHLOROBENZIDINE 4.2-DICHLOROBENZIDINE 4.3-DICHLOROBENZIDINE 19299999999999999999999999999999999999	\$4440000 000 000 00000 0000000000000 000000	\\\$\\$PP\\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\\$\\	
BENZALDEHYDE CAPROLACTAM	100 100 100	9 19 19 9 44 9 4	2 : 2
	W.		4.1
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENGL 2-FLUOROBIPHENGL 2-FLUOROPHENGL NITROBENZENE-D5 PHENGL TERPHENYL-D14	% RECOVERY 86 66 54 79	QC LIMIT 255-134 43-125 252-1363 252-1363 252-1363	
RL: Reporting Limit	phenol ,		

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

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SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW. INC. Project : MFA, SITE 1, CTO 86 Satch No. : 04E267 Sample D: 86-S1-013 Lab Samp ID: E247-05 Lab File ID: RFK092 Ext Btch ID: SVF001W Calib. Ref.: REK313	Date (Date Date Date Date Date Matrix % Mois Instru	Collected: U5/Z Received: U5/Z Extracted: U6/U Analyzed: U6/U On Factor: 94 UATE ture: NA ment ID: T-05	к 2
PARAMETERS	RESULTS	RL (ug/L)	MDL (ug/L)
2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4-DINETHYLPHENOL 2.4-DINITROTOLUENE 2.4-DINITROTOLUENE 2.4-DINITROTOLUENE 2.5-DINITROTOLUENE 2.5-DINITROTOLUENE 2.5-DINITROTOLUENE 2.5-METHYLNAPHTHALENE 2.METHYLNAPHTHALENE 2.METHYLPHENOL 2.MITROANILINE 2.MITROANILINE 2.MITROANILINE 3.NITROANILINE 4.NITROANILINE 4.NITROANILINE 4.5-DINITROANILINE 4.5-DINITROANILINE 4.5-DINITROANILINE 4.5-DINITROANILINE 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 4.MITROPHENOL 5.MITROPHENOL 6.MITROPHENOL NOL 6.MITROSODIPHE		\$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
SIS(2-CHLOROISOPROPYL)ETHER BIS(2-ETHYLHEXYL)PHTHALATE BUTYLBERZYLPHTHALATE DI-N-BUTYLPHTHALATE PLUORANTHENE FLUORANTHENE FLUORANTHENE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE HEXACHLOROSHANE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE 1,1-BI-PHENYL ACETOPHENONE ATTILLOROSHANE BENZALDEHYDE CAPROLACIAM CARBAZOLE	######################################	\$	0444445444544444444444444
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2.FLUGROBIPHENOL 2.FLUGROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENOL-D14 RL: Reporting Limit	% RECOVERY 69 45 36 40 42 70	QC LIMIT	

Ri: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

11610

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E247

SW3520C/8081A PESTICIDES

Four (4) water samples were received on 05/28/04 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at five-point for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%, Endrin and DDT breakdown were within QC limits.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

Sample E247-01 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Client : TETRA TECH FW, INC.	Date Collected: 05/26/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/28/04
Batch No. : 04E247	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-010	Date Analyzed: 06/03/04 14:50
Lab Samp ID: E247-01	Dilution Factor: .94
Lab File ID: SF02063A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02056A	Instrument ID : GCT008

	RESULTS	RL.	MDL
DAD SMETERS	(ug/L)	(ug/L)	(ug/L)
PARAMETERS		1-0:	
ALPHA-BHC	(ND) ND	.047	.0094 .009
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094].009
BETA-BHC	(ND) 024J	.047	.0094 .009
HEPTACHLOR	(ND) ND	.047	.0094 .009
DELTA-BHC	CN DN (DN)	. 047	.0094 .009
ALDRIN	(ND) ND	.047	.0094 .009
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .009
GAMMA-CHLORDANE	.036J (ND)	.047	.0094 .009
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .009
	(ND) ND	.047	.028 .028
ENDOSULFAN I	(ND) ND	.094	
4,41-DDE	(ND) ND	. 19	! .
DIELDRIN	(ND) ND	.094	.019 .019
ENDRIN	(ND) ND	.094	.028 .028
4,41-DDD	(ND) ND	.094	
ENDOSULFAN [1	(ND) ND	.094	- 1
4,41-DDT	(ND) ND	.094	
ENDRIN ALDEHYDE	(ND) ND	.094	
ENDOSULFAN SULFATE	(ND) ND	.094	.019 .019
ENDRIN KETONE	(ND) ND	.47	•
METHOXYCHLOR .	(ND) ND	2.8	1.2 1.2
TOXAPHENÉ	(un) lun	6,5	
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	٠.
TETRACHLORO-M-XYLENE	47 (49)	30-130	
DECACHLOROS I PHENYL	(83) 66	30-13 0	l

RL: Reporting limit
Left of | is related to first column; Right of | related to second column
() included the reported column

1/0/04

	요즘은 그 그 작 중 등 등 등 속 살 는 는 학 등 등 등 등 등 그는 그 도 중 등 한 그는 그 프로 등 등 등
Client : TETRA TECH FW, INC.	Date Collected: 05/26/04
Project : NFA, SITE 1, CTO 86	Date Received: 05/28/04
Batch No. : 04E247	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-011	Date Analyzed: 06/03/04 09:21
Lab Samp ID: E247-03	Dilution Factor: .94
Lab File ID: SF02050A	Metrix ; WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02030A	Instrument ID : GCT008
* =====================================	********

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
AAAA TAAAA			
ALPHA-BHC	(ND) ND	_047	.0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) .048	.047	.0094 .0094
HEPTACHLOR	.02J (ND)	.047	.0094 .0094
DELTA-BHC	(ND) ND	.047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .0094
GAMMA-CHLORDANE	.019J(ND)	.047	.0094 .0094
AL PHA-CHLORDANE	CND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	.047	.028 .028
4.4'-DDE	CND) NO BAS	.094	.028 .028
DIELDRIN	CND) ND	.19	.094 .094
ENDRIN	(ND) ND	.094	.019 .019
4.4'-DDD	EN DNICON)	.094	.028 .028
ENDOSULFAN II	(ND) ND	.094	.019 .019
4.4'-DDT	CND) IND	.094	.019 .019
ENDRIN ALDEHYDE	(ND) ND	-094	.019 .019
ENDOSULFAN SULFATE	. (ND) ND	.094	.019 .019
ENDRIN KETONE	CND IND	-094	-019 .019
METHOXYCHLOR	CNO (NO LAT	.47	.094 .094
TOXAPHENE	(ND) ND	8.5	
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	

TOXAPHENE	(ND) ND	2-8
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	62 (65)	30-130
DECACHLOROBIPHENYL	(72) 64	30-130

RL: Reporting limit
Left of | is related to first column; Right of | related to second column
() included the reported column

1/4/04

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E247 Sample ID: 86-51-912 Lab Samp ID: E247-04 Lab File ID: SF02051A Ext Btch ID: CPF001M Calib. Ref.: SF02030A	Date Date Date Dilu Matr % Mo Inst	Analyzed: tion Factor: ix : isture : rument ID :	05/28/04 06/01/04 16:30 06/03/04 09:46 .94 WATER NA GCT008
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	
ALPHA-BHC	(ND) ND		.0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) .071	.047	.0094 .0094
HEPTACHLOR	(ND) ND	.047	.0094 .0094
DELTA-BHC	· (ND) ND	.047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	
GAMMA-CHLORDANE	(ND) ND	.047	
ALPHA-CHLORDANE	(ND) ND	.047	
ENDOSULFAN 1	(ND) ND		.028 .028
4,4'-DDE	TA DH (CON)	-094	
DIELDRIN	(ND) ND	. 19	
ENDRIN	(ND) ND	.094	
4_41-DDD	(ND) ND W	.094	
ENDOSULFAN II	(ND) ND	.094	
4,4'-DDT	(ND) ND	.094	
ENDRIN ALDEHYDE	(ND) ND	.094	
ENDOSULFAN SULFATE	(ND) ND	.094	
ENDRIN KETONE	(ND) ND	.094	.019[.019
METHOXYCHLOR .	(ND) IND WJ	-47	
TOXAPHENE	(ND) ND	2.8	1.2]1.2
SURROGATE PARAMETERS	% RECOVERY	QC LINI	т

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column

(82) | 81 (70) | 64

30-130

30-130

TETRACHLORG-M-XYLENE DECACHLOROBIPHENYL

Client : TETRA TECH FW, INC.	1	Date Collected: 05/26/04
Project : MFA, SITE 1, CTO 86	-	Date Received: 05/28/04
Batch No. : 04E247		Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-013		Date Analyzed: 06/03/04 10:12
Lab Samp ID: E247-05	1	Dilution Factor: .94
Lab File ID: SF02052A		Matrix : WATER
Ext Btch ID: CPF001W		% Moisture : NA
Calib. Ref.: SFD2030A	'n	Instrument ID : GCT008
	#=====##	

1			
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
ALPHA-BHC	(ND) ND	.047	.0094 -0094
GAMMA-BHC (LINDAME)	(ND) ND	.047	.0094 .0094
BETA-BHC	(ND) [.055	.047	.0094 .0094
HEPTACHLOR	(ND) ND	.047	.0094 .0094
DELTA-BHC	(ND) ND	.047	.0094 .0094
ALDRIN	(ND) ND	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .0094
GAMMA-CHLORDANE	.035J (ND)	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) [ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	-047	
4,41-DDE	LN dej (de)	.094	.028 .028
DIELDRIN .	(ND) ND	.19	.094 .094
ENDRIN	(ND) ND	.094	.019 .019
4.4'-DDD	CN ON (CON)	.094	.028 .028
ENDOSULFAN II	(ND) ND	.094	.019 .019
4.41-DDT	(ND) ND	.094	.019 .019
ENDRIN ALDEHYDE	(ND) ND	.094	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.094	.019 .019
ENDRIN KETONE	(ND) ND	.094	.019 .019
METHOXYCHLOR	LN DN (CN)	-47	.094 .094
TOXAPHENE	(ND) ND	2.8	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	RC LIMIT	
TETRACHLORO-M-XYLENE	86 (90)	30-13 0	•
DECACHLOROS I PHENYL	. (70) [64	30-130	

RL : Reporting limit
Left of | is related to first column ; Right of | related to second column
() included the reported column



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E247

SW3520C/8082 PCBs

Four (4) water samples were received on 05/28/04 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was five-point for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and all recoveries were within 85-115%.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

Sample E247-01 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SM3520C/8082 PCBs

		:======================================
Client: TETRA TECH FW, INC. Project: NFA, SITE 1, CTO 86 Batch No.: 04E247 Sample: ID: 86-S1-010 Lab Samp ID: E247-01 Lab File ID: SF02063A Ext Btch ID: CFF001W	1	Date Collected: 05/26/04 Date Received: 05/28/04 Date Extracted: 06/01/04 16:30 Date Analyzed: 06/03/04 14:50 Dilution Factor: .94 Matrix : WATER % Mofature : NA
Cetib. Ref.: SF02059A	. ' 	Instrument ID : GCT008

•	1 .		
	RESULTS	RL.	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PC8-1232	(ND) ND	.94	.24 .24
PC8-1242	(ND) IND	.94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
	% RECOVERY	QC LIMIT	
SURROGATE PARAMETERS	A RELOVER!	AC LIMIT	
		~~ ***	
TETRACHLORO-M-XYLENE	(44) [46	30-130	
DECACHLOROBIPHENYL	(81) 78	30- 130	

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit

SW35Z0C/8082 PCBs

Client : TETRA TECH FW, INC.	Date Collected: 05/26/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/28/04
Batch No. : C4E247	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-011	Date Analyzed: 06/03/04 09:21
Lab Samp ID: E247-03	Dilution Factor: .94
Lab File ID: SF02050A	Matrix : WATER
Ext Btch ID: CPF001W	% Hoisture : NA
Calib. Ref.: SF02033A	Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
- AND - AND			
PCB-1016	(ND) ND	-94	.24[.24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	-94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(58) [60	30-130	
DECACHLOROBIPHENYL	(77) 69	30-130	

RL: Reporting Limit

Left of | is related to first column; Right of | related to second column

() included the reported column

* Out side of QC Limit



SW3520C/8082 PCBs

######################################	84#
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E247 Sample ID: 86-51-012 Lab Samp ID: E247-04 Lab File ID: SF02051A Ext Btch IO: CPF001W Calib. Ref.: SF02033A	Date Collected: 05/26/04 Date Received: 05/28/04 Date Extracted: 06/01/04 16:30 Date Analyzed: 06/03/04 09:46 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008
	F822222227758822222222222277522222222222

PARAMETERS	RESULTS (Ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	GM (GM) GM (GM) GM (GM) GM (GM) GM (GM) GM (GM) GM (GM)	.94 .94 .94 .94 .94 .94	.24 .24 .24 .24 .24 .24 .24 .24 .24 .24 .24 .24 .24 .24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (76) 76 (75) 69	30-130 30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column

() included the reported column

* Out side of QC Limit

SW3520C/8082 PCBs

Client : TETRA TECH FW, INC.	Date Collected: 05/26/04
Project : MFA, SITE 1, CTO 86	Date Received: 05/28/04
Batch No. : 04E247	Date Extracted: 06/01/04 16:30
Sample ID: 86-S1-013	Date Analyzed: 06/03/04 10:12
Lab Samp ID: E247-05	Dilution Factor: .94
Lab File ID: SF02052A	Matrix : WATER
Ext Btch ID: CPF001W	% Moisture : NA
Calib. Ref.: SF02033A	Instrument ID : GCT008
12 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	######################################

•			
	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(MD) ND	.94	.24 .24
PCB-1242	(ND) ND	.94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	OC LINIT	
TETRACHLORO-M-XYLENE	(80) 84	30-130	
DECACHLOROBIPHENYL	(76) 69	30-130	

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
() included the reported column
* Out side of QC Limit

JUL



COPY

July 6, 2004

Service Request No: K2403968

Jenny Touch EMAX Laboratories, Inc. 1835 W. 205th St. Torrance, CA 90501

RE: MFA, Site 1, CTO 86 / 04E247

Dear Jenny:

Enclosed are the results of the sample(s) submitted to our laboratory on May 29, 2004. For your reference, these analyses have been assigned our service request number K2403968.

All analyses were performed according to our laboratory's quality assurance program. The test results meet requirements of the NELAC standards except as noted in the case narrative report. All results are intended to be considered in their entirety, and Columbia Analytical Services, Inc. (CAS) is not responsible for use of less than the complete report. Results apply only to the items submitted to the laboratory for analysis and individual items (samples) analyzed, as listed in the report.

Please call if you have any questions. My extension is 3281.

Respectfully submitted,

Columbia Analytical Services, Inc.

Abbie Spielman Project Chemist

AS/jeb

Page 1 of <u>200</u>

P

COLUMBIA ANALYTICAL SERVICES, INC.

Client:

EMAX Laboratories

Project:

MFA Site 1, CTO 86

Sample Matrix:

Water

Service Request No.: Date Received:

K2403968

5/29/04

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Four water samples were received for analysis at Columbia Analytical Services on 5/29/04. No discrepancies were noted upon initial sample inspection. All samples were received in good condition and consistent with the accompanying chain of custody forms. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Due to the nature of the sample matrices and additional project information received from the client on 6/3-4/04, additional analyses were subsequently authorized via email on 6/11/04. Other analyses were authorized via email on 6/16/04. Copies of all emails are included in the chain of custody section as supporting documentation.

Dissolved Metals

Sample Notes and Discussion:

Due to the high salinity of the water samples, CAS was not able to analyze the samples as initially requested by EPA 200.8 without additional pretreatment. As discussed with the client, the samples were analyzed using a combination of analytical techniques to meet a variety of project DQO requirements.

In the first approach, the samples were analyzed by ICP per EPA method 6010 (for Al, Sb, Ba, Be, Cd, Cr, Pb, Ni, Ag, Tl, V, Zn) and by GFAA for Arsenic (EPA method 7060A), Copper (EPA method 7211) and Lead (EPA method 7211).

After further discussion with the client, a second approach was designed to achieve lower method reporting limits in the highly saline sample matrix. All samples were pretreated by reductive precipitation using EPA method 1640 and analyzed by ICP/MS EPA method 200.8 for As, Sb, Ba, Be, Cd, Cr, Co, Cu, Pb, Ni (quantified using isotope dilution), Ag, and Tl. In addition, Selenium was analyzed by hydride EPA method 7742.

A separate data package has been prepared for each analytical approach described above. Please note that samples were analyzed for Aluminum, Vanadium and Zinc only one time using ICP EPA method 6010B. However, results for these analytes have been included in both metals data packages.

Matrix Spike Recovery Exceptions:

The matrix spike recovery of Copper by EPA method 7211 for sample 86-S1-010 was outside the CAS control criteria because of matrix interference. The sample contained elevated levels of Total Dissolved Solids (TDS), which caused chemical and physical interference related to atomization and subsequent atomic absorption. The associated QA/QC results (i.e. LCS, CCV, etc.) indicate the analysis was in control. The low recovery suggests a similar low bias in the unspiked sample as well. No further corrective action was appropriate.

Approved by Mi Office

Date 7/6/04

00005

The matrix spike recovery of Selenium by EPA method 7740 for sample 86-S1-010 is not applicable. The analysis of this sample required a dilution such that the added spike concentration was diluted below the Method Reporting Limit (MRL). No further corrective action was taken.

The matrix spike recovery of Arsenic by EPA method 200.8 for sample 86-S1-010 was outside control criteria. Recoveries in the Laboratory Control Samples (LCS) were acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was appropriate.

No other anomalies associated with the analysis of these samples were observed.

Approved by and office

Date 7/6/07

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INORGANIC ANALYSIS DATA SHEET

Client:

FMAX Laboratories, Inc.

Service Request: K2403968

4

04E247

Date Collected:

05/26/04

Project No.:

Date Received: 05/29/04

Project Name: MFA, Site 1, CTO 86

Units:

µg/L

NA

Matrix:

WATER

Basis:

Sample Name: 86-S1-010

Lab Code: K2403968-001 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	U	
Antimony	6010B	50	20	1	6/22/04	6/29/04	20	<u> </u>	<u> </u>
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04		В.	1
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	477		
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	ט	<u> </u>
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	Ū	
	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0		<u> </u>
Chromium	6010B	10.0	2.0	1	6/22/04	6/29/04	6.9	В	
Cobalt	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	U	N U.
Copper	6010B	50	20	1	6/22/04	6/29/04	20	ŭ	
Lead	6010B	20.0	3.0	li	6/22/04	6/29/04	4.7	В	
Nickel	77426	40.0	20.0	20	6/22/04	6/30/04	20.0	U	LUI
Selenium	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	U	
Silver	6010B	<u> </u>	30	1 1	6/22/04	6/29/04	30	Ū	
Thallium	6010B	100	6.0	1 1	6/22/04	6/29/04	10.2	Π	
Vanadium		10.0		1	6/22/04	6/29/04	3.0	Ū	
Zinc	6010B	10.0	3.0	<u> </u>	0/22/44	-,,	<u>1</u>	·	-

% Solids:

0.0

INORGANIC ANALYSIS DATA SHEET

EMAX Laboratories, Inc.

Service Request: K2403968

Project No.: 04E247

Date Collected: 05/26/04

Project Name: MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

WATER

Units: µ6/L

Basis: NA

Sample Name: 86-S1-010

Lab Code: K2403968-001 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	บ	
Antimony	200.8	1.00	0.12	1	6/22/04	6/28/04	2.09		
Arsenic	200.8	1.00	0.04	1	6/24/04	6/29/04	3.62		N
Barium	200.8	1.00	0.60	1	6/22/04	6/28/04	524		
Beryllium	200.8	0.040	0.002	1	6/24/04	6/29/04	0.007	В	U
Cadmium	200.8	0.040	0.006	1	6/24/04	6/29/04	0.012	В	[
Chromium	200.8	0.40	0.08	1	6/24/04	6/29/04	0.80		
Cobalt	200.8	0.040	0.004	1	6/24/04	6/29/04	3.090		
Copper	200.8	0.20	0.02	1	6/24/04	6/29/04	0.08	В	
Lead	200.8	0.040	0.018	1	6/24/04	6/29/04	0.018	ט	
Nickel	200.8	0.40	0.04	1	6/24/04	6/29/04	6.86		
Selenium	7742	1.0	0.3	2	6/22/04	6/24/04	0.3	В	1/1
Silver	200.8	0.040	0.010	1	6/24/04	6/29/04	0.010	ט	
Thallium	200.8	0.040	0.001	1	6/24/04	6/29/04	0.016	В	11
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	10.2		
Zinc	200.8	1.00	0.04	1	6/24/04	6/29/04	0.87	₿	

% Solids: 0.0

INORGANIC ANALYSIS DATA SHEET

EMAX Laboratories, Inc.

Service Request: K2403968

Project No.: 04E247

Date Collected: 05/26/04

Project Name:

MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

WATER

Sample Name: 86-S1-011

Units: μg/L

Basis: NA

Lab Code: K2403968-002 DISS

Analyte	Analysis Method	MRL	MDL ·	Dil.	Date Extracted	Date Analyzed	Result	С	Ō
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	U	
Antimony	6010B	50	20	1	6/22/04	6/29/04	20	ប	<u> </u>
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	5.0	ซ	14
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	120	ļ	1
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	σ	<u> </u>
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	U	<u> </u>
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	Ū	
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	3.9	В	
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	U	N
Lead	6010B	50	20	1	6/22/04	6/29/04	20	U	
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	3.0	U	
Selenium	7.7420	40.0	20.0	20	6/22/04	6/30/04	20.0	U	TW
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	U	
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	U	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	Ū	
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	7.1	В	

% Solids:

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403968

Project No.: 04E247

Date Collected: 05/26/04

Project Name: MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

WATER

Units: µG/L

Basis: NA

Sample Name: 86-S1-011

Lab Code: K2403968-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	ט	
Antimony	200.8	1.00	0.12	1	6/22/04	6/28/04	1.86		1 X
Arsenic	200.8	1.00	0.04	1	6/24/04	6/29/04	1.57		N
Barium	200.8	1.00	0.60	1	6/22/04	6/28/04	130	•	
Beryllium	200.8	0.040	0.002	1	6/24/04	6/29/04	0.006	В	1/1
Cadmium	200.8	0.040	0.006	1	6/24/04	6/29/04	0.134	1	<u> </u>
Chromium	200.8	0.40	0.08	1	6/24/04	6/29/04	0.43		
Cobalt	200.8	0.040	0.004	1	6/24/04	6/29/04	0.882		1
Copper	200.8	0.20	0.02	1	6/24/04	6/29/04	0.26		
Lead	200.8	0.040	0.018	1	6/24/04	6/29/04	0.018	σ	
Nickel	200.8	0,40	0.04	1	6/24/04	6/29/04	5.66		
Selenium	7742	1.0	0.3	2	6/22/04	6/24/04	0.3	U	
Silver	200.8	0.040	0.010	1	6/24/04	6/29/04	0.034	В	
Thallium	200.8	0.040	0.001	1	6/24/04	6/29/04	0.025	В	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	ΰ	
Zinc	200.8	1.00	0.04	1	6/24/04	6/29/04	3.74		

% Solids: 0.0

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403968

Project No.:

Date Collected: 05/26/04

04E247

Date Received: 05/29/04

Project Name:

MFA, Site 1, CTO 86

Matrix:

WATER

Units. µg/L

Basis:

NA

Sample Name: 86-S1-012

Lab Code: K2403968-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q	
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	ט		
Antimony	6010B	50	20	1	6/22/04	6/29/04	20	υ		
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	9.4	В		10
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	188			Ì
Beryllium	6010B	5.0	0.2	1	6/22/04	6/29/04	0.2	ט	[J
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	ŭ]
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	Ū]
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	11.9]
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	U	NU	ł
Lead	6010B	50	20	1	6/22/04	6/29/04	20	ט]
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	12.8	В		ł
Selenium	77420	40.0	20.0	20	6/22/04	6/30/04	20.0	U	M] _
Silver	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	บ		
Thallium	6010B	100	30	1	6/22/04	6/29/04	30	U	1	
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.8	B]
Zinc	6010B	10.0	3.0	1	6/22/04	6/29/04	3.0	ט]

% Solids:

INORGANIC ANALYSIS DATA SHEET

EMAX Laboratories, Inc.

Service Request: K2403968

Project No.: 04E247

Date Collected: 05/26/04

Date Received: 05/29/04

Project Name: MFA, Site 1, CTO 86

Units: uG/L

Basis: NA

Matrix:

WATER

Sample Name: 86-S1-012

Lab Code: K2403968-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	õ
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	U	
Antimony	200.8	1.00	0.12	1	6/22/04	6/28/04	2.14	<u> </u>	
Arsenic	200.8	1.00	0.04	1	6/24/04	6/29/04	6.78		A
Barium	200.8	1.00	0.60	1	6/22/04	6/28/04	214		
Beryllium	200.8	0.040	0.002	1	6/24/04	6/29/04	0.014	B	<u> </u>
Cadmium	200.8	0.040	0.006	1	6/24/04	6/29/04	0.006	U	
Chromium	200.B	0.40	0.08	1	6/24/04	6/29/04	1.23		
Cobalt	200 B	0.040	0.004	1	6/24/04	6/29/04	4.650		
Copper	200.8	0.20	0.02	1	6/24/04	6/29/04	0.19	B	1
Lead	200.8	0.040	0.018	1	6/24/04	6/29/04	0.024	В	
Nickel	200.8	0.40	0.04	1	6/24/04	6/29/04	14.8]
Selenium	7742	1.0	0.3	2	6/22/04	6/24/04	0.3	U	<u> </u>
Silver	200.8	0.040	0.010	1	6/24/04	6/29/04	0.016	В]
Thallium	200.8	0.040	0.001	1	6/24/04	6/29/04	0.008	В	U
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.8	В	
Zinc	200.B	1.00	0.04	1	6/24/04	6/29/04	1.17		

% Solids: 0.0

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2403968

Project No.:

04E247

Date Collected: 05/26/04

Project Name:

MFA, Site 1, CTO 86

Date Received: 05/29/04

Matrix:

Sample Name: 86-S1-013

Units:

µg/L

NA Basis:

WATER

Lab Code: K2403968-004 DISS

Date Date Analysis

Analyte	Method	MRL	MDL	DTT.	Extracted	Analyzed	Result	C	Ω.	
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	ט		Ī
Antimony	6010B	50	20	1	6/22/04	6/29/04	25.9	В		J
Arsenic	7060A	10.0	5.0	5	6/7/04	6/17/04	10.0]
Barium	6010B	5.0	1.0	1	6/22/04	6/29/04	210		6	1
Beryllium	6010B	5.0	0.2	1 1	6/22/04	6/29/04	0.2	-	<u> </u>	ļ
Cadmium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	Ū		Ţ
Chromium	6010B	5.0	2.0	1	6/22/04	6/29/04	2.0	U		ļ
Cobalt	6010B	10.0	2.0	1	6/22/04	6/29/04	14.8	1	1	Į
Copper	7211	2.0	0.6	2	6/22/04	6/22/04	0.6	ט	NI	1
Lead	6010B	50	20	1	6/22/04	6/29/04	20	ט	<u> </u>	1
Nickel	6010B	20.0	3.0	1	6/22/04	6/29/04	13.5	В	<u> </u>	ļ
Selenium	77420	40.0	20.0	20	6/22/04	6/30/04	20.0		: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ļ
	6010B	10.0	7.0	1	6/22/04	6/29/04	7.0	U	<u> </u>	_
	6010B	100	30	1	6/22/04	6/29/04	30	U	1	_
	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0		<u> </u>	1
	6010B	10.0	3.0	1	6/22/04	6/29/04	3.0	U	<u> </u>	
Silver Thallium Vanadium Zinc	6010B 6010B	100	30 6.0	1 1	6/22/04 6/22/04	6/29/04 6/29/04	30 6.0	บ บ	Ī	

% Solids:

0.0

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INORGANIC ANALYSIS DATA SHEET

EMAX Laboratories, Inc.

Service Request: K2403968

Project No.: 04E247

Date Collected: 05/26/04

Date Received: 05/29/04

Project Name: MFA, Site 1, CTO 86

Units: µG/L

Matrix:

WATER

Basis: NA

Sample Name: 86-S1-013

Lab Code: K2403968-004 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	6/22/04	6/29/04	50	υ	Ì
Antimony	200.8	1.00	0.12	1	6/22/04	6/28/04	2.25		
Arsenic	200.8	1.00	0.04	1	6/24/04	6/29/04	6.43		N
Barium	200.8	1.00	0.60	1	6/22/04	6/28/04	229		Ji
Beryllium	200.8	0.040	0.002	1	6/24/04	6/29/04	0.013	В	19
Cadmium	200.8	0.040	0.006	1	6/24/04	6/29/04	0.054		J
Chromium	200.8	0.40	0.08	1	6/24/04	6/29/04	0.49		1 1 /3
Cobalt	200.8	0.040	0.004	1	6/24/04	6/29/04	5.610		
Copper	200.8	0.20	0.02	1	6/24/04	6/29/04	0.13	В	
Lead	200.8	0.040	0.018	1	6/24/04	6/29/04	0.247		
Nickel	200.8	0.40	0.04	1	6/24/04	6/29/04	14.4		
Selenium	7742	1.0	0.3	2	6/22/04	6/24/04	0.3	υ	
Silver	200.8	0.040	0.010	1	6/24/04	6/29/04	0.239		7
Thallium	200.8	0.040	0.001	1	6/24/04	6/29/04	0.008	В	LNI
Vanadium	6010B	10.0	6.0	1	6/22/04	6/29/04	6.0	U	
Zinc	200.8	1.00	0.04	1	6/24/04	6/29/04	0.46	В	JY

& Solids:



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04E247

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Four (4) water samples were received on 05/28/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the control limits.

4. Serial Dilution

Sample E241-01 from another SDG was analyzed for serial dilution. % Difference was not evaluated since diluted sample result was not detected. Analytical spike was performed and met the QC limit.

5. Matrix Spike/Matrix Spike Duplicate

Sample E247-01 was spiked. The recoveries were below the QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

Samples were diluted due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

ient oject stch No.	Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04E247								-	-	Matrix Instrum	ent ID :	WATER T1047
	EMAX	RESULTS			굺	MDL	Analysis	Extraction				Collection	Received
SAMPLE ID	SAMPLE ID	(ng/L)	DLF MOIST	DIST	(ng/L)	(ng/L)	DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME
: : : : :		:	•	:	::::	:		: : : : : :	:::	:		:::::::::::::::::::::::::::::::::::::::	
LKIW '		Q	7	¥	۲.	Ξ:	06/08/0410:49	06/07/0415:00	M47F009010	M47F009008	HGF008W	NA NA	06/07/04
SIW		4.72	П	¥	5,	Τ.	06/08/0410:52	06/07/0415:00	M47F009011	M47F009008	HGF008W	NA	06/07/04
MIQ.		4,76	1	¥	۲.	 !	06/08/0410:54	06/07/0415:00	M47F009012	M47F009008	HGF008W	¥	06/07/04
3-S1-010		무	20	¥	7	2	06/08/0412:56	06/07/0415:00	M47F009068	M47F009065	HGF008W	05/26/04	05/28/04
S1-010W		3.33	50	¥	4	2	06/08/0412:58	06/07/0415:00	M47F009069	M47F009065	HGF008W	05/26/04	05/28/04
S1-010M		3,183	50	NA	4	7	06/08/0413:00	06/07/0415:00	M47F009070	M47F009065	HGF008W	05/26/04	05/28/04
-S1-011		2	20	Ä	4	2	06/08/0413:03	06/07/0415:00	M47F009071	M47F009065	HGF008W	05/26/04	05/28/04
5-51-012		Q	20	¥	4	2	06/08/0413:05	06/07/0415:00	M47F009072	M47F009065	HGF008W	05/26/04	05/28/04
3-S1-013		유	50	ΝĀ	4	7 .	06/08/0413:07	06/07/0415:00	M47F009073	M47F009065	HGF008W	05/26/04	05/28/04

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 26, 2004

LDC Report Date:

July 6, 2004

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E247

Sample Identification

86-S1-010

86-S1-011

86-S1-012

86-S1-013**

86-S1-010MS

86-S1-010MSD



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions5and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-010MS/MSD (All samples in SDG 04E247)	Mercury ,	66 (75-125)	64 (75-125)	-	J (all detects) UJ (all non-detects)	A .

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

Viii. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 04E247

SDG	Sample	Analyte	Flag	A or P	Reason
04E247	86-S1-010 86-S1-011 86-S1-012 86-S1-013**	Mercury	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Airfield, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 04E247

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 26, 2004

LDC Report Date:

July 8, 2004

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level III & IV

Laboratory:

Columbia Analytical Services, Inc.

Sample Delivery Group (SDG): K2403968

Sample Identification

86-S1-010

86-S1-011

86-S1-012

86-S1-013**

86-S1-010RE

86-S1-011RE

86-S1-012RE

86-S1-013RE**

86-S1-010MS

86-S1-010DUP

86-S1-010REMS

86-S1-010REDUP

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 12 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B, 200.8 and 7000 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Banum, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
ICB/CCB	Chromium Copper	2.2 ug/L 1.0 ug/L	86-S1-010 86-S1-011 86-S1-012 86-S1-013**
PB (prep blank)	Beryllium Niokel Thallium	0.004 ug/L 0.09 ug/L 0.001 ug/L	86-S1-010RE 86-S1-011RE 86-S1-012RE 86-S1-013RE**
ICB/CCB	Antimony Beryllium Selenium Thallium	0.02 ug/L 0.011 ug/L 0.2 ug/L 0.02 ug/L	86-S1-010RE 86-S1-011RE 86-S1-012RE 86-S1-013RF**

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-S1-010RE	Beryllium Selenium Thallium	0.007 ug/L 0.3 ug/L 0.016 ug/L	0.007U ug/L 0.3U ug/L 0.016U ug/L
86-S1-011RE	Antimony Beryllium	1.86 ug/L 0,006 ug/L	1.86U ug/L 0.006U ug/L
86-S1-012RE	Thallium	0.008 ug/L	0.008U ug/L -
86-S1-013RE**	Thallium	0.008 ug/L	0.008U ug/Li

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
86-S1-010MS (86-S1-010 86-S1-011 96-S1-012 86-S1-013**)	Copper	69 (75-125)	J (all detects) UJ (all non-detects)	A
96-S1-010REMS (86-S1-010RE 86-S1-911RE 86-S1-012RE 86-S1-013RE**)	Arcenio Cobalt Zinc	31 (75-125) 66 (75-125) 67 (75-125)	J (all detects) UJ (all non-detects)	A

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

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VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits with the following exceptions:

Sample	Internal Standard	%R (Limits)	Analyte	Flag	A or P
86-S1-013RE**	Indium 115	165.2	Antimony Barium	J (all detects) J (all detects)	A
86-S1-013RE**	Nickei 61 Lutetium 175	452.4 130.1	Arsenic Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Silver Thaillium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	А

IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed with the following exceptions:

Analytical Spike	Analyte	%R (Limits)	Associated Sample	Flag	AorP
86-S1-010A	Arsenic Copper Selenium	79.5 (85-115) 72.5 (85-115) 81.0 (85-115)	66-S1-010 86-S1-011 86-S1-012 86-S1-013**	J (all detects) UJ (all non-detects)	^

Raw data were not evaluated for samples reviewed by Level III criteria.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.



XII.-Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

Mottett Airfield, CTO 86 Metals - Data Qualification Summary - SDG K2403968

SDG	Sample	Analyte	Flag	A or P	Reason
K2403968	86-S1-010 86-S1-011 86-S1-012 86-S1-013**	Copper	J (all detects) UJ (all non-detects)	A	Matrix spike analysis (%R)
K2403968	86-S1-010RE 86-S1-011RE 86-S1-012RE 86-S1-013RE**	Arsenic Cobalt Zinc	J (all detects) UJ (all non-detects)	А	Matrix spike analysis (%R)
K2403968	86-S1-013RE**	Antimony Barium Arsenic Beryllium Cadmium Chromium Copalt Copper Lead Nickel Silver Thallium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Internal standards (area)
K2403968	86-S1-010 86-S1-011 86-S1-012 86-S1-013**	Arsenic Copper Selenium	J (all detects) UJ (all non-detects)	А	Furnace atomic absorption QC (%R)

Moffett Airfield, CTO 86 Metals - Laboratory Blank Data Qualification Summary - SDG K2403968

SDG	Sample	Analyte	Modified Final Concentration	A or P
K2403968	86-S1-010RE	Beryllium Selenium Thallium	0.007U ug/L 0.3U ug/L 0.016U ug/L	A
K2403968	86-S1-011RE	Artimony Beryllium	1.86U ug/L 0.006U ug/L	Α
K2403968	86-S1-012RE	Thallium	0.008U ug/L	Α
K2403968	86-S1-013RE**	Thallium	0.008U ug/L	A

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 26, 2004

LDC Report Date:

July 1, 2004

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E247

Sample Identification

86-S1-010

86-S1-011

86-S1-012

86-S1-013**

86-S1-010MS

86-S1-010MSD

^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisii Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86
Polychlorinated Biphenyls - Data Qualification Summary - SDG 04E247

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 86 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 04E247

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 26, 2004

LDC Report Date:

July 1, 2004

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E247

Sample Identification

86-S1-010

86-S1-011

86-S1-012

86-S1-013**

86-S1-010MS

86-S1-010MSD



^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits with the following exceptions:

Date	Standard	Column	Compound	%D	Associated Samples	Flag	A or P
6/3/04	SF02031A	RTX-CLP	4,4'-DDE 4,4'-DDD Methoxychior	16 17 20	86-S1-011 86-S1-012 86-S1-013**	J (all detects) UJ (all non-detects)	A
6/3/04	SF02031A	RTX-CLPII	Methoxychlor	15.4	86-S1-011 86-S1-012 86-S1-013**	J (all detects) UJ (all non-detects)	Α
6/3/04	SF02056B	RTX-CLPII	delta-BHC	16	86-S1-010 86-S1-010MS 86-S1-010MSD	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which an EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 04E247

SDG	Sample	Compound	Flag	A or P	Reason
04E247	86-S1-011 86-S1-012 86-S1-013**	4,4'-DDE 4,4'-DDD Methoxychlor	J (all detects) UJ (all non-detects)	А	Continuing calibration (%D)
04E247	86-S1-011 86-S1-012 86-S1-013**	Methoxychlor	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
04E247	86-S1-010	delta-BHC	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

Moffett Airfield, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 04E247

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Field, CTO 86

Collection Date:

May 26, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E247

Sample Identification

86-S1-010

86-S1-011

86-S1-012

86-S1-013**

86-S1-010MS

86-S1-010MSD



^{**}Indicates sample underwent EPA Level IV review

introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

1. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for selected compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Field, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04E247

No Sample Data Qualified in this SDG

Moffett Field, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04E247

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

May 26, 2004

LDC Report Date:

July 2, 2004

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04E247

Sample Identification

86-S1-010

86-S1-016

86-S1-011

86-S1-012

86-S1-013**

86-S1-010MS

86-S1-010MSD



^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

All samples were received in good condition with the following exceptions:

Sample	Compound	Finding	Criteria	Flag	A or P
86-S1-010 86-S1-011 86-S1-012 86-S1-013**	All TCL compounds	Air bubbles were apparent in the sample containers.	There should be no air bubbles in the sample containers.	J (all detects) UJ (all non-detects)	A

not flagged

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) was less than or equal to 15.0% and less than or equal to 30.0% for individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected samples. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
6/1/04	Chloromethane Bromomethane 4-Methyl-2-pentanone 2-Hexanone	34 26 28 27	All samples in SDG 04E247	J (all detects) UJ (all non-detects)	A -

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method and validation criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment of Data

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Sample 86-S1-016 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Airfield, CTO 86 Volatiles - Data Qualification Summary - SDG 04E247

SDG	Sample	Compound	Flag	A or P	Reason
04E247	86-S1-010 86-S1-011 86-S1-012 86-S1-013**	All TCL compounds	J (all detects) UJ (all non-detects)	A	Sample condition
04E247	86-S1-010 88-S1-016 86-S1-011 86-S1-012 86-S1-013**	Chloromethane Bromomethane 4-Methyl-2-pentanone 2-Hexanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

Moffett Airfield, CTO 86 Volatiles - Laboratory Blank Data Qualification Summary - SDG 04E247

No Sample Data Qualified in this SDG



1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

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CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K094

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Seven (7) water samples were received on 11/10/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Sample K094-07 was initially analyzed at DF 5 due to foaming.

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-056 Lab Samp ID: K094-01 Lab File ID: RKC593 Ext Btch ID: V067K45 Calib. Ref.: RJC640	Matri: % Moi:	Collected: 11 Received: 11 Extracted: 11 Analyzed: 11 ion Factor: 1 x	/08/04 /10/04 /10/04 /19/04 07:19 /19/04 07:19 TER
PARAMETERS	TIP:	RL) 551555555555555555555555555555555555	พระ พระ พระ พระ พระ พระ พระ พระ พระ พระ
1,2-DICHLOROETHANE-D4 TÓLUENE-D8 BROMOFLUOROBENZENE R.L.: Reporting limit * : Out of QC E : Exceeded calibration range B : Found in associated method blub. J : Value between R.L. and MDL D : Value from dilution analysis D.O.: Diluted out	128 91 83 ank	62-139 75-125 75-125	

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-069 Lab Samp ID: K094-02 Lab File ID: RKC592 Ext Btch ID: V067K45 Calib. Ref.: RJC640	Matri: % Moi: Instr	Collected: 11/0 Received: 11/1 Extracted: 11/1 Analyzed: 11/1 ion Factor: 1 X : WATE Sture : NA ument ID : T-06	8/04 0/04 9/04 06:43 9/04 06:43 R 7
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,1,TRICHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,2-J-TRICHLOROBENZENE 1,2-J-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,4-ENGANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 2-HEXANONE 3-HEXANONE SULTS (J9/L) 100 100 100 100 100 100 100 100 100 10	RL) - 5.575.55.55.55.55.55.55.55.55.55.55.55.5	MDL MDL เรา พิกา เรา พิกา พิกา พิกา พิกา พิกา พิกา พิกา พิก	
J : Value between R.L. and MDL D : Value from dilution analysis D.O. : Diluted out			

PARAMETERS	Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-058 Lab Samp ID: K094-04 Lab File ID: RKC595 Ext Btch ID: V067K45 Calib. Ref.: RJC640	Matri: % Moi:	Received: 11/1 Extracted: 11/1 Analyzed: 11/1 ion Factor: 1 x : WATE	_
p : Value from dilution analysis	1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRICHLOROETHANE 1,1,2-TETRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE 1,2-JETRICHLOROBENZENE 1,2-JETRICHLOROBENZENE 1,2-TETRICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROENZENE 1,2-DICHLOROENZENE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,4-EXANONE 4-CHLOROTOLLUENE 2-HEXANONE 4-CHLOROTOLLUENE 2-HEXANONE 4-CHLOROTOLLUENE 2-HEXANONE 4-CHLOROTOLLUENE 2-HEXANONE 4-CHLOROTOLLUENE 2-HEXANONE 4-CHLOROTOLLUENE 2-HEXANONE 4-CHLOROTOLLUENE 2-HEXANONE 4-CHLOROFORM CHCORTOLLOROMETHANE BROMOGHOROMETHANE BROMOGHOROMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROFORM CHLOROMETHANE CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE DICHLORODIFLUOROMETHANE DICHLORODIFLUOROMETHANE DIBROMOCHLOROMETHANE (-	55-15555555555555555555555555555555555	. นามนานนานนานนานนานนานนานนานนานนานนานนานน	

Ext Btch ID: V067K45 % Moisture : NA Calib. Ref.: RJC640 Instrument ID : T-067		Matrix % Mois	ion Factor: 1	10/04 19/04 09:09 19/04 09:09
PARAMETERS	1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,2,3-TRICHLOROPROPANE 1,2,3-TRICHLOROPROPANE 1,2,4-TRIGHLOROBROZENE 1,2,4-TRIGHLOROBROZENE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,4-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2-BUTANONE 2-CHLOROTOLUENE 2-BUTANONE 2-CHLOROTOLUENE 4-METHYL-2-PENTANONE ACETONE BENZENE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROFORM CHLOROBENZENE CHLOROFORM CHLOROBENTANE CHLOROPROPANE 1-3-DICHLOROPOPENE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DISPOPTYL BENZENE MYP-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE TETRACHLOROETHENE TRICHLOROFILOROMETHANE TRICHLOROFILOROPROPENE TRICHLOROFILOROMETHANE TRICHLOROFILOROPROPENE TRICHLOROPROPENE TRICHLOROFILOROPROPENE TRICHLOROFILOROPROPENE TRICHLOROFILOROPROPENE TRICHLOROPROPENE TRICHLOROPROPENE TRICHLOROPROPENE	9-10-10-10-10-10-10-10-10-10-10-10-10-10-	 	PL) : พุพพังผันหนังนั้นหน้นหน้าหนังนั้นหนังนั้นหนังนั้นหนังนั้นหนังนั้นหนังนั้นหนังนั้นหนังนั้นหนังนั้นหนังนั

RESULTS RL MDL	Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : O4K094 Sample ID: 86-S1-061 Lab Samp ID: K094-06 Lab File ID: RKC597 Ext Btch ID: V067K45 Calib. Ref.: RJC640	Matrix % Mois Instru	Received: 11/ Extracted: 11/ Analyzed: 11/ ion Factor: 1 K : WAT	67
BROMODICHLOROMETHANE ND .5 .2	1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRICHLOROETHANE 1.1.2-TETRICHLOROETHANE 1.1.2-TETRICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.4-TRIMETHYLBENZENE 1.2-DICHLOROENZENE 1.2-DICHLOROENZENE 1.2-DICHLOROENZENE 1.2-DICHLOROENZENE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.3-DICHLOROPROPANE 2.3-DICHLOROPROPANE 2.3-DICHLOROMETHANE BROMOBENZENE BROMOBENZENE BROMOBENZENE BROMOBENZENE BROMOBENZENE BROMOBENZENE BROMOBENZENE CHLOROFORM CHLOROMETHANE CARBON DISULFIDE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROETHANE CHLOROFORM CHLOROMETHANE CHLOROFORM CHLOROMETHANE DISCHOROPROPENE DIBROMOMETHANE DIBROMOMETHANE DICHLORODIFLUOROMETHANE DIBROMOMETHANE CIS-1.3-DICHLOROPROPENE DIBROMOMETHANE DICHLOROBITADIENE 1SOPROPYL BENZENE MYP-XYLENE MYP-XYLENE MYP-XYLENE P-ISOPROPYLTOLUENE SC-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE TETRACHLOROFLIOROMETHANE TICHLOROETHENE TRANS-1,2-DICHLOROPROPENE TRICHLOROFLIOROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS	9/	ug/L): 5515555555555555555555555555555555555	

PARAMETERS	Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K094 Sample ID: 86-S1-062 Lab Samp ID: K094-07 Lab File ID: RKC598 Ext Btch ID: V067K45 Calib. Ref.: RJC640	Date Diluti Matrix % Mois	Collected: 11/0 Received: 11/1 Extracted: 11/1 Analyzed: 11/1 on Factor: 5 (: WATE sture : NA ument ID : T-06	10/04 19/04 10:22 19/04 10:22
D : Value from dilution analysis D.O.: Diluted out	1.1.1-TRICHLOROETHANE 1.1.1-TRICHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRICHLOROETHANE 1.1.2-TETRICHLOROETHANE 1.1.1-DICHLOROETHANE 1.1-DICHLOROPTHANE 1.1-DICHLOROPROPENE 1.2.3-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.4-TRIMETHYLBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROBENZENE 1.2-DICHLOROPROPANE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.4-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.2-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROPROPANE 2.4-DICHLOROMETHANE BROMOGHLOROMETHANE BROMOGHLOROMETHANE BROMOGHLOROMETHANE BROMOGHLOROMETHANE CHLOROFTHANE CHLOROFTHANE CHLOROFTHANE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROBENZENE CHLOROPTHANE CIS-1,3-DICHLOROPETHENE CIS-1,3-DICHLOROPETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOMETHANE CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE THYLBENZENE MPP-XYLENE MPP-XYLENE MPP-XYLENE N-PROPYLBENZENE MPP-XYLENE N-PROPYLBENZENE MPP-XYLENE P-ISOPROPYL BENZENE TETRACHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROFLUOROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS	(U9/1) ND	1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	(ug/L) 1.51 1.51 1.51 1.51 1.51 1.51 1.51 1.5

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K094

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Six (6) water samples were received on 11/10/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-056 Lab Samp ID: K094-01 Lab File ID: RLH028 Ext Btch ID: SVK019W - Calib. Ref.: RLH007	Date Collected: 11/08/04 Date Received: 11/10/04 Date Extracted: 11/15/04 18:00 Date Analyzed: 12/03/04 13:54 Dilution Factor: 94 Matrix : WATER % Moisture : NA Instrument ID : T-041
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-LORONAPHTHALENE 2,CHLOROPHENOL 2,METHYLNAPHTHALENE 2,METHYLNAPHTHALENE 2,METHYLPHENOL 2,NITROANILINE 2,NITROANILINE 3,3'-DICHLOROBENZIDINE 3,NITROANILINE 4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-NITROANILINE 4-NITROSODILINE 4-NITROSODILI	RESULTS (ug/L) (
PENTACHLOROPHENOL PHENANTHRENE PHENOL PYRENE 1 1 - BIPHENYL ACETOPHENONE ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE	ND 19 9.4 ND 19 5.67 ND 9.4 4.7 ND 9.4 4.7 ND 9.4 2.3 ND 9.4 2.3 ND 9.4 4.7 ND 9.4 4.7 ND 9.4 4.7 ND 9.4 4.7
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Report he separated from 3-Methyl	% RECOVERY QC LIMIT 92 25-134 70 43-125 61 25-125 68 32-125 65 25-125 102 42-126

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-057 Lab Samp ID: K094-03 Lab File ID: RLH029 Ext Btch ID: SVK019W Calib. Ref.: RLH007	Date Date Diluti Matrix % Mois Instru	Collected: 11/08/0 Received: 11/10/0 Extracted: 11/15/0 Analyzed: 12/03/0 on Factor: .94 : WATER :ture : NA ment ID : T-041	4 18:00 4 14:22
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.0-DINTICHLOROPHENOL 2.4.0-DINTIROPHENOL 2.4.0-DINTIROPHENOL 2.4.0-DINTIROTOLUENE 2.6.0-DINTIROTOLUENE 2.6.0-DINTIROTOLUENE 2.6.0-DINTIROTOLUENE 2.METHYLNAPHTHALENE 2.METHYLNAPHTHALENE 2.MITROANILINE 2.NITROANILINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.4NITROANILINE 4.6-DINTIROPHENOL 4.5-DINTIROPHENOL 4.5	TS.) -	RL	MDL-444499544444544496444444444444444444444
NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	95	25 - 125 42 - 126	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample : ID: 86-S1-058 Lab Samp ID: K094-04 Lab File ID: RLH030 Ext Btch ID: SVK019\(\alpha\) Calib. Ref.: RLH007	Matrix % Mois Instru	ument ID : 1-04	ER 41
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,6-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4,0 IMETHYLPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPOLUENE 2,6-DINITROTOLUENE 2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-METHYLNAPHTHALENE 2-NITROPHENOL 3,31-DICHLOROBENZIDINE 3,NITROANILINE 2-NITROANILINE 2-NITROANILINE 4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORONILINE 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-NITROANILINE 4-NITROANILINE 4-NITROPHENOL ACENAPHTHENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(G,FLUORANTHENE BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROPHTHALATE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE PHENACHLOROPETHANE FLUORANTHENE FLUORANTHENE FLUORANTHENE FLUORANTHENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE PHENOL PHENANTHRENE CAPPOLACTAM CARBAZOLE		L) 4444999444494449944449944444444444444	
SURROGATE PARAMETERS 2.4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL -D5 TERPHENYL-D14 RL: Reporting Limit	% RECOVERY 86 67 57 66 63 91	QC LIMIT 	

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-060 Lab Samp ID: K094-05 Lab File ID: RLH031 Ext Btch ID: SVK019\(\overline{w}\) - Calib. Ref.: RLH007	Date Date Diluti Matrix % Mois	Collected: 11/0 Received: 11/1 Extracted: 11/1 Analyzed: 12/0 on Factor: 95 ture: NA ment ID: T-04	:R
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DICHLOROPHENOL 3,4-DICHLOROPHENOL	ND ND ND ND	(ug/L) 	4 8 4 8 4 8 4 8
2,4-DICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE	ND ND ND	19 19 19	9.5 9.5 5.7
2-CHLOROPHENOL 2-CHLOROPHENOL 2-METHYLNAPHTHALENE	ND ND ND	9.5	4.8 4.8 4.8
2-METHYLPHENOL 2-NITROANILINE 2-NITROPHENOL 3-3-DICHLORDENZIDINE	ND ND ND ND	9 19 9 5 9 5	5.7 4.8 4.8
3,31-DICHLOROBENZIDINE 3-NITROANILINE 4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER	ND ND ND	9.5 19 19	4.8 9.5 6.6
4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER	ND ND ND ND	9.555 9.996	4.8 4.8 4.8
4-METHYLPHENOL (1) 4-NITROANILINE 4-NITROPHENOL ACENAPHTHENE	ND ND ND	9.5 19 9.5	4.8 4.8 4.8
ACENAPHTHENE ACENAPHTHYLENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE	ND ND ND ND	9.5 9.5 9.5	4 - 8 4 - 8 4 - 8
	ND ND ND	9.5 9.5 9.5	4-8 4-8 4-8
BENZO(K)FLUDRANTHENE BENZO(K)FLUDRANTHENE BENZO(G,H,I)PERYLENE BIS(2-CHLOROETHOXY)METHANE BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROISOPROPYL)ETHER BIS(2-ETHYLHEXYL)PHTHALATE BUTYLBENZYLPHTHALATE CHAYSENE	ND ND ND ND	9.5 9.5 9.10	4.8 4.8 4.8
BUTYLBENZYLPHTHALATE CHRYSENE DI-N-BUTYLPHTHALATE	ND ND ND	9.5 9.5 9.5	4-8 4-8 4-8
DI-N-OCTYLPHTHALATE DIBENZO(A,H)ANTHRACENE DIBENZOFURAN DIBENZOFURAN	ND ND ND ND		4.8 4.8 4.8 5.7
DIETHYLPHTHALATE DIMETHYLPHTHALATE FLUORANTHENE FLUORENE	ND ND ND	19 9.5 9.5	4.8 4.8 4.8
FLUORENE HEXACHLOROBENZENE HEXACHLOROCYCLOPENTADIENE HEXACHLOROCTHANE INDENO(1,2,3-CD)PYRENE	ND ND ND ND	19 9.5 8.5	5.7 4.8 4.8
ISOPHOROÑE N-NITROSO-DI-N-PROPYLAMINE N-NITROSODIPHENYLAMINE (2)	ND ND ND	9.55 9.55	4-8 4-8 4-8
NITROBENZENE PENTACHLOROPHENOL PHENANTHRENE	ND ND ND	9.5 19 19	4.8 9.7 4.8
PHENOL PYRENE 1 1'-BIPHENYL ACETOPHENONE	ND ND ND ND	905	4.8 4.8 2.4
ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE	ND ND ND ND	9999 999	808851578888788885688888888888888888888888
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL	% RECOVERY	QC LIMIT 25-134	
2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5	87 68 63 74 66	25-134 43-125 25-125 32-125 25-125 42-126	
PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	66 96	25-125 42-126	

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-061 Lab Samp ID: K094-06 Lab File ID: RLH032 Ext Btch ID: SVK019w - Calib. Ref.: RLH007	Date Date Date Diluti Matrix % Mois	Collected: 11/0 Received: 11/1 Extracted: 11/1 Analyzed: 12/0 on Factor: .94 : WATE ture NA ment 1D : T-04	0/04 5/04 18:00 3/04 15:44 R
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROPHENOL 2,METHYLNAPHTHALENE 2,METHYLNAPHTHALENE 2,METHYLNAPHTHALENE 2,MITROANILINE 2,NITROANILINE 3,NITROANILINE 3,NITROANILINE 4,0-DINITRO-2-METHYLPHENOL 4,0-DINITRO-2-METHYLPHENOL 4,0-DINITRO-2-METHYLPHENOL 4,0-DINITRO-3-METHYLPHENOL 5,0-DINITRO-3-METHYLPHTHALATE DINITRO-3-METHYLPHTHALATE DIBENZO(A, H)ANTHRACENE DIBENZ	RESULT: VENEZA NO DE DE DE DE DE DE DE DE DE DE DE DE DE	# RL1-0000 0000 000 000000 0000000000000000	MDL-444499544449644444444444444444444444444
RL: Reporting Limit			

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K094 Sample ID: 86-S1-062 Lab Samp ID: K094-07 Lab File ID: RLH033 Ext Btch ID: SVK019W Calib. Ref.: RLH007	Date Date Date Diluti Matri % Motr	Collected: 11/09/ Received: 11/10/ Extracted: 11/15/ Analyzed: 12/03/ ion Factor: .94 & WATER sture: NA	04 04 04 18:00 04 16:12
PARAMETERS		RL)-4444999444494444944444444444444444444	MDL - 7777744677777467777777777777777777777



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K094

SW3520C/8081A PESTICIDES

Six (6) water samples were received on 11/10/04 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met except the re-extraction of K094-01, 03 and 04 was one day out of holding time.

2. Instrument Performance and Calibration

Initial calibration was at five points for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%.

Endrin and DDT breakdown were within QC limit.

3. Method Blank

Method blanks were free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit except DCB in K094-01, 03, and 04. Samples were reextracted, surrogates were within QC limits.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

When sample results are confirmed by a second column, the relative percentage difference (RPD) between the two results is calculated. If RPD is less than 40%, and no evidence of chromatographic problems, the higher result is reported. If RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgement. If no evidence of any chromatographic problems, the higher result is reported.

Client : TETRA TECH FW, INC.	Date Collected: 11/08/04
Project : MFA, SITE 1, CTO 86	Date Received: 11/10/04
Batch No. : 04K094	Date Extracted: 11/12/04 18:00
Sample ID: 86-S1-056	Date Analyzed: 11/15/04 23:08
Lab-Samp ID: K094-01	Dilution Factor: .94
Lab File ID: SK15026A	Matrix : WATER
Ext Btch ID: CPK013W	% Moisture : NA
Calib. Ref.: SK15019A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL MDŁ (ug/L) (ug/L)
ALDIA DIC	(ND) ND	.047 .0094 .0094
ALPHA-BHC GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) .012J	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) .012J	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	· · •	.047 .0094 .0094
	(ND) ND (ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE ENDOSULFAN I	(ND) ND	.047 .028 .028
= 0	• • •	.094 .028 .028
4,41-DDE	(ND) ND (ND) ND	.19 .094 .094
DIELDRIN	• • • •	.094 .019 .019
ENDRIN	(ND) ND	.094 .028 .028
4,41-DDD	(ND) ND	·
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	-094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	84 (95)	30-130
DECACHLOROBIPHENYL	24* (27*)	30-130

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column

______ : TETRA TECH FW, INC. Date Collected: 11/08/04 Client Project: MFA, SITE 1, CTO 86
Batch No.: 04K094 Date Received: 11/10/04 Date Extracted: 11/16/04 19:00 Sample ID: 86-S1-056RE Date Analyzed: 11/18/04 08:39 Lab Samp ID: K094-01R Dilution Factor: .94 Lab File ID: SK17041A Matrix : WATER Ext Btch ID: CPK014W % Moisture Instrument ID : GCT008 Calib. Ref.: SK17035A _____

RESULTS MDL **PARAMETERS** (ug/L) (ug/L) (ug/L) -----(ND) ND .047 .0094 | .0094 ALPHA-BHC .0094 .0094 GAMMA-BHC (LINDANE) (ND) ND .047 .047 .0094 .0094 (ND) ND BETA-BHC (ND) ND .047 .0094 .0094 **HEPTACHLOR** (ND) ND .047 .0094 .0094 DELTA-BHC (ND) ND .0094 .0094 ,047 ALDRIN .0094 | .0094 HEPTACHLOR EPOXIDE (ND) ND .047 (ND) ND .047 .0094 | .0094 GAMMA-CHLORDANE .0094 | .0094 ALPHA-CHLORDANE (ND) ND .047 .047 .028 .028 (ND) ND ENDOSULFAN I 4,4'-DDE (ND) ND .094 .028 .028 (ND) ND .19 .094 .094 DIELDRIN .094 .019 .019 (ND) ND ENDRIN (ND) ND .028 | .028 4,4'-DDD .094 (ND) ND ENDOSULFAN II .094 .019|.019 .094 .019|.019 4,4'-DDT (ND) ND .094 .019|.019 ENDRIN ALDEHYDE (ND) ND .094 .019 .019 (ND) ND ENDOSULFAN SULFATE .019 .019 ENDRIN KETONE (ND) ND .094 .094 .094 (ND) ND .47 **METHOXYCHLOR** 2.8 1.2 1.2 **TOXAPHENE** (ND) ND QC LIMIT % RECOVERY SURROGATE PARAMETERS 30-130 71 (77) TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL 86 (100) 30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

() included the reported column

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Client : TETR	RA TECH FW, INC.	Date 0	collected:	11/08/04	
Project : MFA,	, SITE 1, CTO 86	Date	Received:	11/10/04	
Batch No. : 04K0	094	Date E	xtracted:	11/12/04	18:00
Sample ID: 86-S	s1-057	Date	Analyzed:	11/15/04	23:33
Lab Samp ID: K094	¥-03	Dilutio	n Factor:	.94	
Lab File ID: SK15	5027A	Matrix	:	WATER	
Ext Btch ID: CPKO)13W	% Moist	ure :	NA	
Calib. Ref.: SK15	5019A	Instrum	ment ID :	GCT008	

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 🐣 .0094 .0094
BETA-BHC	(ND) 013J	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) .016J	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 _094 _094
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) .023J	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	85 (97)	30-130
DECACHLOROB PHENYL	9* (10*)	30-130

RL : Reporting limit Left of \mid is related to first column ; Right of \mid related to second column () included the reported column

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Client :	TETRA TECH FW, INC.	Date Collected: 11/08/04
Project :	MFA, SITE 1, CTO 86	Date Received: 11/10/04
Batch No. :	04K094 _	Date Extracted: 11/16/04 19:00
Sample ID:	86-S1-057RE	Date Analyzed: 11/18/04 09:04
Lab Samp ID:	K094-03R	Dilution Factor: .94
Lab File ID:	SK17042A	Matrix : WATER
Ext Btch ID:	CPK014W	% Moisture : NA
Calib. Ref.:	SK17035A	Instrument ID : GCT008
==========		

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHĈ	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 🛣 .0094 [.0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094[.0094
ALDRIN	(ND) ND	.047 .0094[.0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094[.0094
GAMMA - CHLORDANE	(ND) ND	.047 .0094[.0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019[.019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
OURROSATE DARAMETERS	% RECOVERY	QC LIMIT
SURROGATE PARAMETERS	A RELUVERT	AC CIMII
TETRACIII ODO N. VVI ENE	57 (62)	30-130
TETRACHLORO-M-XYLENE	1, ,	30-130 30-130
DECACHLOROBIPHENYL	87 (103)	30* 130

RL: Reporting limit

Left of \mid is related to first column ; Right of \mid related to second column () included the reported column

: TETRA TECH FW, INC. Client Date Collected: 11/08/04 : MFA, SITE 1, CTO 86 Project Date Received: 11/10/04 Batch No. : 04K094 Date Extracted: 11/12/04 18:00 Sample ID: 86-S1-058 Date Analyzed: 11/15/04 23:59 Lab_Samp ID: K094-04 Dilution Factor: .94 Lab File ID: SK15028A Matrix : WATER Ext Btch ID: CPK013W % Moisture : NA Calib. Ref.: SK15019A Instrument ID : GCT008 _____

RLMDL RESULTS **PARAMETERS** (ug/L) (ug/L) (ug/L) ---**----**ALPHA-BHC (ND) ND .047 .0094 | .0094 .047 .0094 .0094 (ND) ND GAMMA-BHC (LINDANE) .0094 .0094 BETA-BHC (ND)|.019J .047 **HEPTACHLOR** (ND) ND .047 .0094 | .0094 (ND) ND .0094 | .0094 **DELTA-BHC** .047 (ND) .023J .0094 | .0094 .047 ALDRIN (ND) ND .047 .0094 | .0094 HEPTACHLOR EPOXIDE GAMMA-CHLORDANE (ND) ND .047 .0094 | .0094 .047 .0094 .0094 ALPHA-CHLORDANE (ND) ND .047 ENDOSULFAN I (ND) ND .028 .028 4,4'-DDE (ND) ND .094 .028 .028 (ND) ND DIELDRIN .19 .094 .094 (ND) ND .094 .019 .019 ENDRIN 4,4'-DDD (ND) ND .094 .028 .028 ENDOSULFAN II (ND) ND .094 .019 .019 (ND) ND .094 .019|.019 4.4'-DDT .094 .019|.019 (ND) ND ENDRIN ALDEHYDE .019 .019 .094 ENDOSULFAN SULFATE (ND) ND **ENDRIN KETONE** (ND) 067J .094 .094 .094 (ND) ND .47 **METHOXYCHLOR** (ND) ND 2.8 1.2 1.2 TOXAPHENE SURROGATE PARAMETERS % RECOVERY QC LIMIT 30-130 79 (90) TETRACHLORO-M-XYLENE **DECACHLOROBIPHENYL** 24* (26*) 30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

() included the reported column

	86-S1-058RE K094-04R SK17043A CPK014W		Date Collected: Date Received: Date Extracted: Date Analyzed: Dilution Factor: Matrix : % Moisture : Instrument ID :	11/10/04 11/16/04 19:00 11/18/04 09:30 .94 WATER NA
===========	======================================			
DADAMETERS		RESULTS	RL (ug/L)	MDL (ug/l)

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.0470094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND)[ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,41-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019[.019
ENDOSULFAN SULFATE	(ND) ND	.094 .019[.019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	82 (89)	30-130
DECACHLOROBIPHENYL	87 (102)	30-130

RL : Reporting limit Left of \mid is related to first column ; Right of \mid related to second column () included the reported column

Client : TETRA TECH FW, INC.	Date Collected: 11/09/04		
Project : MFA, SITE 1, CTO 86	Date Received: 11/10/04		
Batch No. : 04K094	Date Extracted: 11/16/04 19:00		
Sample ID: 86-S1-060	Date Analyzed: 11/18/04 09:55		
Lab Samp ID: K094-05R	Dilution Factor: .94		
Lab File ID: SK17044A	Matrīx : WATER		
Ext Btch ID: CPK014W	% Moisture : NA		
Calib. Ref.: SK17035A	Instrument ID : GCT008		

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 🕶 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) .011J	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019].019
4,4'-DDD	(ND) ND	.094 .028
ENDOSULFAN II	(ND) ND	.094 .019].019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019].019
ENDOSULFAN SULFATE	(ND) ND	.094 .019
ENDRIN KETONE	(ND) ND	.094 .019].019
METHOXYCHLOR	(ND) ND	.47 .094].094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
	·	
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	78 (86)	30-130
DECACHLOROBIPHENYL	88 (104)	30-130
	·	

RL : Reporting limit Left of \mid is related to first column ; Right of \mid related to second column () included the reported column

Client : TETRA TECH FW, INC.	Date Collected: 11/09/04
Project : MFA, SITE 1, CTO 86	Date Received: 11/10/04
Batch No. : 04K094	Date Extracted: 11/16/04 19:00
Sample ID: 86-S1-061	Date Analyzed: 11/18/04 10:20
Lab Samp ID: K094-06R	Dilution Factor: .94
Lab File ID: SK17045A	Matrix : WATER
Ext Btch ID: CPK014W	% Moisture : NA
Calib. Ref.: SK17035A	Instrument ID : GCT008

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
**********		1-3/-/	
ALPHA-BHC	(ND) ND	_047	.0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 🕶	.0094 .0094
BETA-BHC	(ND) ND	.047	.0094 .0094
HEPTACHLOR	(ND) ND	.047	.0094 .0094
DELTA-BHC	(ND) ND	.047	.0094 .0094
ALDRIN	(ND) .01J	.047	.0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047	.0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047	.0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047	.0094 .0094
ENDOSULFAN I	(ND) ND	.047	.028 .028
4,4'-DDE	(ND) ND	.094	.028 .028
DIELDRIN	(ND) ND	.19	.094 .094
ENDRIN	(ND) ND	.094	.019 .019
4,4'-DDD	(ND) ND	.094	.028 .028
ENDOSULFAN II	(ND) ND	.094	.019 .019
4,4'-DDT	(ND) ND	.094	.019].019
ENDRIN ALDEHYDE	(ND) ND	.094	.019 .019
ENDOSULFAN SULFATE	(ND) ND	.094	.019].019
ENDRIN KETONE	(ND) ND	.094	.019 .019
METHOXYCHLOR	(ND) NĐ	.47	.094 .094
TOXAPHENE	(ND) ND	2.8	1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	82 (89)	30-130	
DECACHLOROBIPHENYL	85 (100)	30-130	

RL : Reporting limit Left of | is related to first column ; Right of | related to second column () included the reported column

Client : TETRA TECH FW, INC.
Project : MFA, SITE 1, CTO 86
Batch No. : 04K094 Date Collected: 11/09/04 Date Received: 11/10/04 Date Extracted: 11/16/04 19:00 Sample ID: 86-S1-062 Date Analyzed: 11/18/04 10:45 Lab Samp ID: K094-07R Dilution Factor: .94 Lab File ID: SK17046A Matrix : WATER Ext Btch ID: CPK014W % Moisture : NA Calib. Ref.: SK17035A Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	.055 (.011J)	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(DD) .02J	.0470094 .0094
BETA-BHC	.041J (.14)	.047 .0094 .0094
HEPTACHLOR	.022J (ND)	.047 .0094 .0094
DELTA-BHC	.014J (.029J)	.047 .0094 .0094
ALDRIN	.087 (ND)	.047 .0094 .0094
HEPTACHLOR EPOXIDE	.017J (.034J)	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	.016J (ND)	.047 .0094 .0094
ENDOSULFAN I	(ND) .064	.047 .028 .028
4,4'-DDE	.042J (ND)	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	.02J (_032J)	.094 .019 .019
4,4'-DDD	.051J (ND)	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) .074J	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) .04J	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
CURROCATE DARAMETERS	% RECOVERY	QC LIMIT
SURROGATE PARAMETERS	A RECOVERT	AC TIMII
TETRACIII ODO N. VVI ENE	881(92)	30-130
TETRACHLORO-M-XYLENE	ļ. · · ·	30-130 30-130
DECACHLOROBIPHENYL	70 (117)	20-120

RL : Reporting limit Left of \mid is related to first column ; Right of \mid related to second column () included the reported column



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K094

SW3520C/8082 PCBs

Six (6) water samples were received on 11/10/04 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met except three samples K094-01, 03 and 04 were re-extracted one day out of holding time.

2. Instrument Performance and Calibration

Initial calibration was five points for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and all recoveries were within 85-115%.

3. Method Blank

Method blanks were free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit except DCB in K094-01, 03 and 04. Samples were re-extracted and results met QC criteria.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

sw3520c/8082 PCBs

=======================================	========	=======================================
Client : TETRA TECH FW, INC.		Date Collected: 11/08/04
Project : MFA, SITE 1, CTO 86		Date Received: 11/10/04
Batch No. : 04K094		Date Extracted: 11/12/04 18:00
Sample ID: 86-S1-056		Date Analyzed: 11/15/04 23:08
Lab Samp ID: K094-01		Dilution Factor: .94
Lab File ID: SK15026A		Matrix : WATER
Ext Btch ID: CPK013W		% Moisture : NA
Calib. Ref.: SK15022A		Instrument ID : GCT008
=======================================	=========	
•		
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.9424 .24
PCB-1232	(ND) ND	.94 .24
PCB-1242	(ND) ND	.94 .24
PCB-1248	(ND) ND	.94 .24
PCB-1254	(ND) ND	.94 .24
PCB-1260	(ND) ND	.94 .24
	•	·
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(80) 92	30-130
DECACHLOROBIPHENYL	(23*) 29*	30-130

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit

sw3520c/8082 PCBs

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K094 Sample ID: 86-S1-056RE Lab-Samp ID: K094-01R Lab File ID: SK17041A Ext Btch ID: CPK014W		Date Collected: 11/08/04 Date Received: 11/10/04 Date Extracted: 11/16/04 19:00 Date Analyzed: 11/18/04 08:39 Dilution Factor: .94 Matrix : WATER % Moisture : NA
Calib. Ref.: SK17038A		Instrument ID : GCT008
PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.9424 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	.94 .24 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT

TETRACHLORO-M-XYLENE

DECACHLOROBIPHENYL

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
() included the reported column
* Out side of QC Limit

(69)] 77 (86)] 107

30-130 30-130

SW3520C/8082 PCBs

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K094 Sample ID: 86-S1-057 Lab Samp ID: K094-03 Lab File ID: SK15027A Ext Btch ID: CPK013W Calib. Ref.: SK15022A		Date Collected: 11/08/04 Date Received: 11/10/04 Date Extracted: 11/12/04 18:00 Date Analyzed: 11/15/04 23:33 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008
PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
PARAMETERS	(ug/L)	(ug/L/ (ug/L/
PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.9424 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	.94 .24 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
		70.470
TETRACHLORO-M-XYLENE	(81) 94	30-130
DECACHLOROBIPHENYL	(9*) 11*	30-130

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit

sw3520c/8082 **PCBs**

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K094 Sample ID: 86-S1-057RE Lab-Samp ID: K094-03R Lab File ID: SK17042A Ext Btch ID: CPK014W Calib. Ref.: SK17038A	Date Date E Date E Date Dilution Matrix % Moist	ollected: 11/08/04 Received: 11/10/04 xtracted: 11/16/04 19:00 Analyzed: 11/18/04 09:04 n Factor: .94 : WATER ure : NA ent ID : GCT008
PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	(ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	.94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (56) 63 (87) 111	QC LIMIT 30-130 30-130

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
() included the reported column
* Out side of QC Limit

SW3520C/8082 PCBs

Client : TETRA TECH FW, INC.	Date Collected: 11/08/04
Project : MFA, SITE 1, CTO 86	Date Received: 11/10/04
Batch No. : 04K094	Date Extracted: 11/12/04 18:00
Sample ID: 86-S1-058	Date Analyzed: 11/15/04 23:59
Lab Samp ID: K094-04	Dilution Factor: .94
Lab File ID: SK15028A	Matrix : WATER
Ext Btch ID: CPK013W	% Moisture : NA
Calib. Ref.: SK15022A	Instrument ID : GCT008
	2222233333333333333333333333333333333

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.94 🏲	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(75) 87	30-130	
DECACHLOROBIPHENYL	(23*) 28*	30-130	

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
() included the reported column
* Out side of QC Limit

sw3520c/8082 PCBs

Client : TETRA TECH FW, INC.		Date Collected: 11/08/04
Project : MFA, SITE 1, CTO 86		Date Received: 11/10/04
Batch No. : 04K094		Date Extracted: 11/16/04 19:00
Sample ID: 86-S1-058RE		Date Analyzed: 11/18/04 09:30
Lab Samp ID: K094-04R		Dilution Factor: .94
Lab File ID: SK17043A		Matrix : WATER
Ext Btch ID: CPK014W		% Moisture : NA
Calib. Ref.: SK17038A		Instrument ID : GCT008
		=======================================
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PCB-1016	(ND) ND	.9424 .24
PCB-1221	(ND) ND	.9424 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	.94 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(80) 90	30-130
DECACHLOROBIPHENYL	(87) 109	30-130

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column () included the reported column * Out side of QC Limit

SW3520C/8082 **PCBs**

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K094 Sample ID: 86-S1-060 Lab-Samp ID: K094-05R Lab File ID: SK17044A Ext Btch ID: CPK014W Calib. Ref.: SK17038A	=======================================	Date Collected: 11/09/04 Date Received: 11/10/04 Date Extracted: 11/16/04 19:00 Date Analyzed: 11/18/04 09:55 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PCB-1016	(ND) ND	.94 .24].24
PCB-1221	(ND) ND	.9424 .24
PCB-1232	(ND) ND	.94 .24
PCB-1242	(ND) ND	.94 .24
PCB-1248	(ND) ND	.94 .24 .24
PCB-1254	(ND) ND	.94 .24 .24
PCB-1260	(ND) ND	.94 .24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACIII ODO M VVI ENE	(75) 85	30-130
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL		30-130 30-130
DECACHLORODIPHENTL	(87) 112	JU- 1JU

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
() included the reported column
* Out side of QC Limit

SW3520C/8082 PCBs

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K094 Sample ID: 86-S1-061 Lab_Samp ID: K094-06R Lab File ID: SK17045A Ext Btch ID: CPK014W Calib_Ref.: SK17038A		Date Collected: 11/09/04 Date Received: 11/10/04 Date Extracted: 11/16/04 19:00 Date Analyzed: 11/18/04 10:20 Dilution Factor: .94 Matrix : WATER % Moisture : NA Instrument ID : GCT008
PARAMETERS	RESULTS (ug/L)	RL MDL (ug/L) (ug/L)
PCB-1016 PCB-1221 PCB-1232 PCB-1242 PCB-1248 PCB-1254 PCB-1260	(ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND (ND) ND	.94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24 .94 .24 .24
SURROGATE PARAMETERS TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	% RECOVERY (80) 90 (84) 108	QC LIMIT 30-130 30-130

RL: Reporting Limit
Left of | is related to first column; Right of | related to second column
() included the reported column
* Out side of QC Limit

sw3520C/8082 PCBs

	=========	
Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86		Date Collected: 11/09/04 Date Received: 11/10/04
Batch No. : 04K094_		Date Extracted: 11/16/04 19:00
Sample ID: 86-S1-062		Date Analyzed: 11/18/04 10:45
Lab Samp ID: K094-07R		Dilution Factor: -94
Lab File ID: SK17046A		Matrix : WATER
Ext Btch ID: CPK014W		% Moisture : NA
Calib. Ref.: SK17038A		Instrument ID : GCT008
***************************************	========	=======================================
	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
PCB-1016	(ND) ND	.94 .24 .24
PCB-1221	(ND) ND	.9424 .24
PCB-1232	(ND) ND	.94 .24 .24
PCB-1242	(ND) ND	.94 .24 .24
PCB-1248	(ND) ND	.94 .24
PC8-1254	(ND) ND	.94 .24
PCB-1260	(ND) ND	.94 .24 .24
	·	
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT

RL: Reporting Limit

TETRACHLORO-M-XYLENE

DECACHLOROBIPHENYL

Left of | is related to first column ; Right of | related to second column

(93) | 104 (70) | 126

30-130

30-130

^() included the reported column
* Out side of QC Limit



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K094

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Six (6) water samples were received on 11/10/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample K099-07 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

All samples were analyzed at DF 20 due to matrix interference from high salt level.

	VAPOR
¥.	COLD
74.70A	B
METHOD	MERCURY
	DISSOLVED

Project : MF Batch No. : 04	Project : MKA, SITE 1, CTO 86 Batch No. : 04K094				10 11 11 11 11	11 11 11 11 11 11 11 11 11			 	Instrum	ent ID	T1047
	EMAX	RESULTS		RL	MDL	Analysis	Extraction				Collection	Received
SAMPLE ID	SAMPLE ID	(ng/L)	DLF MOIST	(ng/L)	(ng/r)	DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME
1 1 1 1 1 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1 1 1 1		: : : : :	t t t					1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ; ;	1 1 1 1
MBLK1W	HGK016WB	용	⊼	A . 2	۲,	11/18/0416:07	11/17/0416:00 M47K019010	M47K019010	M47K019008	HGK016W	NA	11/17/04
LCS1W	HGK016WL	7.96	Z .	A .2	Γ.	11/18/0416:09	11/17/0416:00 M47K019011	M47K019011	M47K019008	HGK016W	ĄN	11/17/04
LCD1W	HGK016WC	76.4	٠.	NA .2	۲.	11/18/0416:11	11/17/0416:00 M47K019012	M47K019012	M47K019008	HGK016W	ĄN	11/17/04
86-51-056	K094-01	2		4 4	~	11/18/0417:22	11/17/0416:00 M47K019044	M47K019044	M47K019042	HGK016W	11/08/04	11/10/04
86-S1-057	K094-03	2		4 4	~	11/18/0417:25	11/17/0416:00 M47K019045	M47K019045	M47K019042	HGK016W	11/08/04	11/10/04
86-S1-058	K094-04	Q		4 4	2	11/18/0417:27	11/17/0416:00 M47K019046	M47K019046	M47K019042	HGK016W	11/08/04	11/10/04
86-51-060	K094-05	2	20 N	7 V	2	11/18/0417:29	11/17/0416:00 M47K019047	M47K019047	M47K019042	HGK016W	11/09/04	11/10/04
86-51-061	K094-06	2		4 4	2	11/18/0417:31	11/17/0416:00 M47K019048	M47K019048	M47K019042	HGK016W	11/09/04	11/10/04
86-51-062	K094-07	Q	20 N	4 4	2	11/18/0417:33	11/17/0416:00 M47K019049	M47K019049	M47K019042	HGK016W	11/09/04	11/10/04

RL: Reporting Limit

COLUMBIA ANALYTICAL SERVICES, INC.

Client:

EMAX Laboratories, Inc.

Service Request No.:

K2409068

Project:

04K099

Date Received:

11/13/04

Sample Matrix:

Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Six water samples were received for analysis at Columbia Analytical Services on 11/13/04. No discrepancies were noted upon initial sample inspection. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Metals

Sample Notes and Discussion:

Due to the high salinity of sample matrix, all samples required pre-treatment using reductive precipitation prior to analysis by ICP/MS EPA 200.8. Analysis of Selenium was performed by hydride EPA 7742 due to the saline sample matrix.

Matrix Spike Recovery Exceptions:

The matrix spike recovery of Chromium for Batch QC sample was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was appropriate.

The matrix spike recovery of Cobalt for Batch QC sample was outside the CAS control criteria as a result of the variability in the sample results. Variability between replicates was sufficient to bias the percent recoveries outside normal CAS control criteria. The associated QA/QC results (e.g. control sample, calibration standards, etc.) indicate the analysis was in control. Due to sample volume limitations no further corrective action was possible.

The control criterion for matrix spike recovery of Nickel for Batch QC sample is not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Relative Percent Difference Exceptions:

alli

The Relative Percent Difference (RPD) for the replicate analysis of Cobalt in Batch QC sample was outside the normal CAS control limits. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. No further corrective action was possible. The data is flagged to indicate the problem.

No other anomalies associated with the analysis of these samples were observed.

Approved by

Date

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/08/04

Project Name: NA

Date Received: 11/13/04

Matrix: WATER

Units: µg/L

Basis: • NA

Sample Name: 86-S1-056

Lab Code: K2409068-001 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ט	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	4.220		
Arsenic.	200.8	0.50	0.02	1	12/29/04	1/3/05	5.75		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	111		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.005	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.003	В	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.25		И
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	8.680		*M
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.30		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.017	В	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	19.2		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.7	В	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.092		
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.037		
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	บ	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	4.17		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/08/04

Project Name: NA

Date Received: 11/13/04

Matrix:

Units: µg/L

Basis: •NA

Sample Name: 86-S1-057

Lab Code: K2409068-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ប	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	4.890	ļ	
Arsenic	200.8	1.00	0.04	2	12/29/04	1/3/05	7.96		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	126		
Beryllium	200.8	0.040	0.002	2	12/29/04	1/3/05	0.015	В	
Cadmium	200.8	0.040	0.006	2	12/29/04	1/3/05	0.006	ס	
Chromium	200.8	0.40	0.08	2	12/29/04	1/3/05	0.51		N
Cobalt	200.8	0.040	0.004	2	12/29/04	1/3/05	4.360		*N
Copper	200.8	0.20	0.02	2	12/29/04	1/3/05	0.13	В	
Lead	200.8	0.040	0.018	2	12/29/04	1/3/05	0.018	ט	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	7.60		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	υ	
Silver	200.8	0.040	0.010	2	12/29/04	1/3/05	0.010	ט	
Thallium	200.8	0.040	0.001	2	12/29/04	1/3/05	0.001	ט	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	Ū	
Zinc	200.8	1.00	0.04	2	12/29/04	1/3/05	22.7		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/08/04

Project Name: NA

Date Received: 11/13/04

Matrix:

WATER

Units: µg/L

Basis: •NA

Sample Name: 86-S1-058

Lab Code: K2409068-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ט	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	4.820		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	2.82		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	81.3		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.003	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.421		
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.17	В	N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	11.0		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.38		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.039		
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	12.7		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	Ū	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.011	B	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.062		
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	บ	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	37.4		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/09/04

Date Received: 11/13/04

Project Name: NA

Units: µg/L

Basis: • NA

Matrix:

WATER

Sample Name: 86-S1-060

Lab Code: K2409068-004 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	υ	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	4.490		
Arsenic	200.8	1.00	0.04	2	12/29/04	1/3/05	7.53		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	147		
Beryllium	200.8	0.040	0.002	2	12/29/04	1/3/05	0.007	В	
Cadmium	200.8	0.040	0.006	2	12/29/04	1/3/05	0.014	В	
Chromium	200.8	0.40	0.08	2	12/29/04	1/3/05	0.44		N
Cobalt	200.8	0.040	0.004	2	12/29/04	1/3/05	6.090		*N
Copper	200.8	0.20	0.02	2	12/29/04	1/3/05	0.23		
Lead	200.8	0.040	0.018	2	12/29/04	1/3/05	0.145		
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	7.60		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	U	
Silver	200.8	0.040	0.010	2	12/29/04	1/3/05	0.012	В	
Thallium	200.8	0.040	0.001	2	12/29/04	1/3/05	0.001	ט	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	ט	
Zinc	200.8	1.00	0.04	2	12/29/04	1/3/05	29.5		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/08/04

Project Name: NA

Date Received: 11/13/04

Matrix:

WATER

Units: µg/L

Basis: •NA

Sample Name: 86-S1-058

Lab Code: K2409068-003 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ט	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	4.820		
Arsenic	200.8	0,50	0.02	1	12/29/04	1/3/05	2.82		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	81.3		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.003	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.421		
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.17	В	И
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	11.0		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.38		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.039		
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	12.7	1	
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.011	В	<u> </u>
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.062		
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	ט	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	37.4		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/09/04

Project Name: NA

WATER

Date Received: 11/13/04

Units: µg/L

Basis: • NA

Sample Name: 86-S1-061

Lab Code: K2409068-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ט	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	4.940		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	3.31		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	60.5		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.005	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.041		
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.26		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	3.280		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.24		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.012	В	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	8.35		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	U	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	U	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.050		
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	U	
Zinc	200.8	5.00	0.20	10	12/29/04	1/3/05	68.6		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/09/04

Date Received: 11/13/04

Project Name: NA

Units: µg/L

Matrix:

WATER

Basis: • NA

Sample Name: 86-S1-062

Lab Code: K2409068-006 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50,	50	1	12/9/04	12/12/04	50.2	ĺ	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	1.940		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	2.20		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	1160		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.022		
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.003	U	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	6.19		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	0.101		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.37		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.213		
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	21.3		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	U	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	В	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	ט	
Zinc	200.8	50.00	2.00	100	12/29/04	1/3/05	1320		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: 11/09/04

Date Received: 11/13/04

Project Name: NA

Matrix:

WATER

Units: µg/L

Basis: •NA

Sample Name: 86-S1-061

Lab Code: K2409068-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ט	
Antimony	200.8	1,000	0.120	1	12/9/04	12/13/04	4.940		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	3.31		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	60.5		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.005	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.041		
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.26		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	3.280		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.24		<u> </u>
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.012	В	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	8.35		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	Ū	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.050		
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	ט	
Zinc	200.8	5.00	0.20	10	12/29/04	1/3/05	68.6		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409068

Project No.: 04K094

Date Collected: NA

Project Name: NA

Date Received: NA

Matrix:

WATER

Units: µg/L

Basis: .NA

Sample Name: Method Blank

Lab Code: K2409068-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ט	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	0.316	₿	
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	0.02	ט	
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	0.600	Ū	
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	ប	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.003	ט	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.04	ט	N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	0.002	ט	*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.01	ט	
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.009	ŭ	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	0.02	ט	
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	Ū	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	ַ ט	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	Ū	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	0.02	บ	

% Solids: 0.0

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, Site 1, CTO 86

Collection Date:

November 8 through November 9, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc. & Columbia Analytical

Services, Inc.

Sample Delivery Group (SDG): 04K094/K2409068

Sample Identification

86-S1-056

86-S1-057

86-S1-058**

86-S1-060

86-S1-061

86-S1-062

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7000 and EPA Method 200.8 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony	0.316 ug/L	All samples in SDG 04K094/K2409068
ICB/CCB	Antimony Nickel Selenium Thallium Vanadium	0.038 ug/L 0.31 ug/L 0.16 ug/L 0.03 ug/L 7.2 ug/L	All samples in SDG 04K094/K2409068

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-S1-056 (2X)	Selenium	0.7 ug/L	0.7U ug/L
86-S1-062	Antimony	1.94 ug/L	1.94U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
86-S1-068MS (All samples in SDG 04K094/K2409068)	Arsenic Beryllium Chromium Copper Zinc	43 (75-125) 59 (75-125) 45 (75-125) 72 (75-125) 49 (75-125)	J (all detects) UJ (all non-detects)	A
86-S1-068MS (All samples in SDG 04K094/K2409068)	Cobalt	150 (75-125)	J (all detects)	А

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
86-S1-068DUP (All samples in SDG 04K094/K2409068)	Cobalt	79 (≤30)	-	J (all detects) UJ (all non-detects)	Α

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits for samples on which a EPA Level IV review was performed with the following exceptions:

Sample	Internal Standard	%R (Limits)	Analyte	Flag	A or P
86-S1-058** (digested 12/13/04)	Indium-115	158.6 (60-125)	Antimony Barium	J (all detects) J (all detects)	А
86-S1-058** (digested 1/3/05)	Lithium-6 Scandium-45 Nickel-61 Indium-115 Lutetium-175	150.4 (60-125) 130.8 (60-125) 154.7 (60-125) 138.9 (60-125) 130.7 (60-125)	Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc Arsenic	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A

Raw data were not evaluated for the samples reviewed by Level III criteria.

IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Air Field, Site 1, CTO 86 Metals - Data Qualification Summary - SDG 04K094/K2409068

SDG	Sample	Analyte	Flag	A or P	Reason
04K094/ K2409068	86-S1-056 86-S1-057 86-S1-058** 86-S1-060 86-S1-061 86-S1-062	Arsenic Beryllium Chromium Copper Zinc	J (all detects) UJ (all non-detects)	А	Matrix spike analysis (%R)
04K094/ K2409068	86-S1-056 86-S1-057 86-S1-058** 86-S1-060 86-S1-061 86-S1-062	Cobalt	J (all detects)	A	Matrix spike analysis (%R)
04K094/ K2409068	86-S1-056 86-S1-057 86-S1-058** 86-S1-060 86-S1-061 86-S1-062	Cobalt	J (all detects) UJ (all non-detects)	А	Duplicate sample analysis (RPD)
04K094/ K2409068	86-S1-058**	Antimony Barium Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc Arsenic	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Internal standards (%R)

Moffett Air Field, Site 1, CTO 86 Metals - Laboratory Blank Data Qualification Summary - SDG 04K094/K2409068

SDG	Sample	Апаlyte	Modified Final Concentration	A or P
04K094/ K2409068	86-S1-056 (2X)	Selenium	0.7U ug/L	Α
04K094/ K2409068	86-S1-062	Antimony	1.94U ug/L	A

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

November 8 through November 9, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K094

Sample Identification

86-S1-056

86-S1-057

86-S1-058**

86-S1-060

86-S1-061

86-S1-062

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-068MS/MSD (All samples in SDG 04K094)	Mercury	67 (75-125)	72 (75-125)	-	J (all detects) UJ (all non-detects)	A

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

Vil. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

No field duplicates were identified in this SDG.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Mercury - Data Qualification Summary - SDG 04K094

SDG	Sample	_ Analyte	Flag	A or P	Reason
04K094	86-S1-056 86-S1-057 86-S1-058** 86-S1-060 86-S1-061 86-S1-062	Mercury	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Airfield, Site 1, CTO 86 Mercury - Laboratory Blank Data Qualification Summary - SDG 04K094

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 85

Collection Date:

November 8 through November 9, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K094

Sample Identification

86-S1-056

86-S1-069

86-S1-057

86-S1-058**

86-S1-060

86-S1-061

86-S1-062

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 7 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
11/19/04	4-Methyl-2-pentanone	26.9	All samples in SDG 04K094	J (all detects) UJ (all non-detects)	А
	trans-1,3-Dichloropropene	25.2		J (all detects) UJ (all non-detects)	
	trans-1,3-Dichloropropene	25.2		•	

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

Sample 86-S1-069 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Airfield, MFA, Site 1, CTO 85 Volatiles - Data Qualification Summary - SDG 04K094

SDG	Sample	Compound	Flag	A or P	Reason
04K094	86-S1-056 86-S1-069 86-S1-057 86-S1-058** 86-S1-060 86-S1-061 86-S1-062	4-Methyl-2-pentanone trans-1,3-Dichloropropene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	А	Continuing calibration (%D)

Moffett Airfield, MFA, Site 1, CTO 85 Volatiles - Laboratory Blank Data Qualification Summary - SDG 04K094

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 85

Collection Date:

November 8 through November 9, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K094

Sample Identification

86-S1-056

86-S1-057

86-S1-058**

86-S1-060

86-S1-061

86-S1-062

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 6 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	% D	Associated Samples	Flag	A or P
12/2/04	Hexachlorocyclopentadiene	23.8	All samples in SDG 04K094	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

No field duplicates were identified in this SDG.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA, Site 1, CTO 85 Semivolatiles - Data Qualification Summary - SDG 04K094

SDG	Sample	Compound	Flag	A or P	Reason
04K094	86-S1-056 86-S1-057 86-S1-058** 86-S1-060 86-S1-061 86-S1-062	Hexachlorocyclopentadiene	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D)

Moffett Airfield, MFA, Site 1, CTO 85 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04K094

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 86

Collection Date:

November 8 through November 9, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K094

Sample Identification

86-S1-056

86-S1-056RE

86-S1-057

86-S1-057RE

86-S1-058**

86-S1-058RE**

86-S1-060

86-S1-061

86-S1-062

^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
86-S1-056RE 86-S1-057RE 86-S1-058RE**	All TCL compounds	8	7	J (all detects) UJ (all non-detects)	А

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D_	Associated Samples	Flag	A or P
11/15/04	gamma-Chlordane 4,4'-DDD Endrin ketone	16 24 17	86-S1-056 86-S1-057 86-S1-058** MBLK1W	J (all detects) UJ (all non-detects)	A

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
86-S1-056	RTX-CLPII	Decachlorobiphenyl	27 (30-130)	All TCL compounds	J (all detects) UJ (all non-detects)	Α
86-S1-057	RTX-CLPII	Decachlorobiphenyl	10 (30-130)	All TCL compounds	J (all detects) UJ (all non-detects)	А
86-S1-058**	RTX-CLPII	Decachlorobiphenyl .	26 (30-130)	All TCL compounds	J (all detects) UJ (all non-detects)	A

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA, Site 1, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 04K094

SDG	Sample	Compound	Flag	A or P	Reason
04K094	86-S1-056RE 86-S1-057RE 86-S1-058RE**	All TCL compounds	J (all detects) UJ (all non-detects)	А	Technical holding times
04K094	86-S1-056 86-S1-057 86-S1-058**	gamma-Chlordane 4,4'-DDD Endrin ketone	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D)
04K094	86-S1-056 86-S1-057 86-S1-058**	All TCL compounds	J (all detects) UJ (all non-detects)	A	Surrogate recovery (%R)

Moffett Airfield, MFA, Site 1, CTO 86 Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 04K094

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 86

Collection Date:

November 8 through November 9, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

ORIGINAL

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K094

Sample Identification

86-S1-056

86-S1-056RE

86-S1-057

86-S1-057RE

86-S1-058**

86-S1-058RE**

86-S1-060

86-S1-061

86-S1-062

^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met with the following exceptions:

Sample	Compound	Total Days From Sample Collection Until Extraction	Required Holding Time (in Days) From Sample Collection Until Extraction	Flag	A or P
86-S1-056RE 86-S1-057RE 86-S1-058RE**	All TCL compounds	8	7	J (all detects) UJ (all non-detects)	A

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits with the following exceptions:

Sample	Column	Surrogate	%R (Limits)	Compound	Flag	A or P
86-\$1-056	RTX-CLP	Decachlorobiphenyl	23 (30-130)	All TCL compounds	J (all detects) UJ (all non-detects)	Α
86-S1-057	RTX-CLP	Decachlorobiphenyl	9 (30-130)	All TCL compounds	J (all detects) R (all non-detects)	А
86-\$1-058**	RTX-CLP	Decachlorobiphenyl	23 (30-130)	All TCL compounds	J (all detects) UJ (all non-detects)	А

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

No field duplicates were identified in this SDG.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA, Site 1, CTO 86 Polychlorinated Biphenyls - Data Qualification Summary - SDG 04K094

SDG	Sample	Compound	Flag	A or P	Reason
04K094	86-S1-056RE 86-S1-057RE 86-S1-058RE**	All TCL compounds	J (all detects) UJ (all non-detects)	А	Technical holding times
04K094	86-S1-056 86-S1-058**	All TCL compounds	J (all detects) UJ (all non-detects)	A	Surrogate recovery (%R)
04K094	86-\$1-057	All TCL compounds	J (all detects) R (all non-detects)	A	Surrogate recovery (%R)

Moffett Airfield, MFA, Site 1, CTO 86 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 04K094

No Sample Data Qualified in this SDG

CHAIN-OF-CUSTODY RECORD

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CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K099

SW 5030B/8260B VOLATILE ORGANICS BY GC/MS

Seven (7) water samples were received on 11/11/04 for Volatile Organic analysis by Method 5030B/8260B in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample K099-07 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04k099 Sample ID: 86-S1-070 Lab Samp ID: K099-01 Lab File ID: RKD581 Ext Btch ID: V094K45 Calib. Ref.: RJD151	Date Date Date Diluti - Matrix % Mois Instru	Collected: 11/0 Received: 11/1 Extracted: 11/2 Analyzed: 11/2 on Factor: 1 : WATE ture : NA ment ID : T-09	R
PARAMETERS 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRACHLOROETHANE 1,1,2-TETRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,2-J-TRICHLOROBRAZENE 1,2-J-TRICHLOROBRAZENE 1,2-J-TRICHLOROBRAZENE 1,2-DICHLOROBRAZENE 1,2-DICHLOROBRAZENE 1,2-DICHLOROBRAZENE 1,2-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 1,3-DICHLOROBRAZENE 2-BUTANONE 2-BUTANONE 2-CHLOROTOLUENE 2-BUTANONE 2-CHLOROTOLUENE 2-HEXANONE 4-CRIOROTOLUENE 2-HEXANONE 4-CRIOROTOLUENE 2-HEXANONE 4-CRIOROTOLUENE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE BROMOBENZENE BROMOBENZENE BROMOBENZENE CHLOROFORM CHLOROMETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DIBROMOMETHANE DISPOPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE N-PROPYL BENZENE TICHLOROFILOROMETHANE DIUPINE TRANS-1,3-DICHLOROPROPENE TRICHLOROFILOROMETHANE VIN'L CHLORIDE SURROGATE PARAMETERS 1,2-DICHLOROBENZENE R.L.: Reporting Limit **: Out of QC E Exceeded calibration range B Found in associated method bla J: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL D: Value between R.L. and MDL	RESULTS (RL): ທຸກ-ທຸ້ງທຸກທຸກທຸກທຸກທຸກທຸກທຸກຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕຸດຕ	MDL
D.O.: Diluted out			

Revised Report

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K099 Sample ID: 86-S1-063 Lab Samp ID: K099-02 Lab File ID: RKD584 Ext Btch ID: V094K45 Calib. Ref.: RJD151	Date Date Date Date Diluti Matri % Mois Instru	t : WAT sture : NA	
PARAMETERS 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRICHLOROETHANE 1.1.1-DICHLOROETHANE 1.1-DICHLOROETHANE 1.1-DICHLOROPROPENE 1.2-3-TRICHLOROPROPANE 1.2-3-TRICHLOROPROPANE 1.2-4-TRICHLOROPROPANE 1.2-4-TRICHLOROPROPANE 1.2-1-TRICHLOROPROPANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROETHANE 1.2-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 2.2-DICHLOROPOPANE 2.2-DICHLOROPOPANE 2.3-DICHLOROPOPANE 2.3-DICHLOROPOPANE 2.3-DICHLOROPOPANE 2.3-DICHLOROPOPANE 2.3-DICHLOROMETHANE BROMOETHANE 2.3-DICHLOROMETHANE BROMOBENZENE BROMOETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROETHANE CHLOROBENZENE CHLOROBETHANE CHLOROBENZENE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CHLOROBETHANE CIS-1,2-DICHLOROPOPENE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPOPENE DIBROMOCHLOROMETHANE CHS-1,2-DICHLOROPOPENE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPOPENE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPOPENE DIBROMOCHLOROMETHANE CIS-1,3-DICHLOROPOPENE DIBROMOCHLOROMETHANE CHEXACHLOROBITADIENE ISOPROPYL BENZENE M/P-XYLENE P-ISOPROPYL BENZENE M/P-XYLENE P-ISOPROPYL BENZENE M/P-XYLENE P-ISOPROPYL BENZENE N-PROPYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE TETRACHLOROETHENE TRICHLOROFICHOROMETHANE TICHLOROFICHOROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS 1.2-DICHLOROETHANE-D4 TOLUENE TRICHLOROFICHOROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS 1.2-DICHLOROETHANE-D4 TOLUENE TRICHLOROFICHOROMETHANE VINYL CHLORIDE SURROGATE PARAMETERS 1.2-DICHLOROETHANE-D4 TOLUENE TRICHLOROFICHOROMETHANE OUT of QC E EXCEEDED (and in associated method bla J Value between R.L. and MDL D. Value from dilution analysis D.O.: Diluted out	RESULTS (1971) ***********************************	RL) 55-1-55-55-55-55-55-55-55-55-55-55-55-55	RDL)

Client: TETRA TECH FW, INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K099 Sample ID: 86-S1-064 Lab Samp ID: K099-03 Lab File ID: RND585 Ext Btch ID: V094K45 Calib. Ref.: RJD151	- Matrix % Mois	on ractor: i	
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
	ND	.5 .5 1	
1,1,2-TETRACHLOROETHANE 1,1,-TRICHLOROETHANE 1,1,2-Z-TETRACHLOROETHANE 1,1,2-Z-TETRACHLOROETHANE 1,1,2-TRICHLOROETHANE 1,1,2-TRICHLOROETHANE	ND ND	.5 1	.2
1,1,2-TRICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHENE	ND ND	5	.2
1,1-DICHLOROETHENE 1,1-DICHLOROPROPENE	ND ND	-5	.2
1,2,3-TRICHLOROBENZENE 1,2,3-TRICHLOROPROPANE	ND ND	:5	:2
1,2,4-TRICHLOROBENZENE 1,2,4-TRIMETHYLBENZENE	ND ND	:5	:\$
1,2-DIEROMO-3-CHLUROPROPANE 1,2-DICHLOROBENZENE	ND ND	.5ૄ	٠ź
1 2, 4-TRICHLOROBENZENE 1 2,4-TRIMETHYLBENZENE 1 2-DIBROMO-3-CHLOROPROPANE 1,2-DICHLOROBENZENE 1,2-DICHLOROETHANE 1,2-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-5-TRIMETHYLBENZENE	ND ND	:5	:2
1,3-DICHLOROBENZENE 1,3-DICHLOROBENZENE	ND ND ND	.5	-2
1 1-DICHLOROPROPENE 1, 2, 3-TRICHLOROPROPENE 1, 2, 3-TRICHLOROPROPANE 1, 2, 4-TRICHLOROPROPANE 1, 2, 4-TRICHLOROPROPANE 1, 2, 4-TRIMETHYLBENZENE 1, 2-DICHLOROPROPANE 1, 2-DICHLOROPROPANE 1, 2-DICHLOROPROPANE 1, 2-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 3-DICHLOROPROPANE 1, 4-DICHLOROPROPANE 1, 4-DICHLOROPROPANE 2-BUTANONE	ND ND	:[-5
2-BUTANONE 2-CHLOROTOLUENE	ND ND	֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓	- 2
2-HEXANONE 4-CHLOROTOLUENE	ND ND	1 <u>0</u>	.2
4-METHYL-2-PENTANONE ACETONE	ND ND	10 10	1 2
BENZENE BROMOBENZENE	ND ND	.5 .5	.2
BROMOCHLOROMETHANE BROMODICHLOROMETHANE	ND ND	.5	.ş
BROMOFORM BROMOMETHANE	МD МD .23 J	į	.22.5
CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE	ND ND	. <u>.</u>	-5
CHLOROETHANE CHLOROFORM	ND ND	<u>.</u> [.2
	ND ND	. 1 . 5	.5 .2
CIS-1/3-DICHLOROPROPENE DIBROMOCHLOROMETHANE	ND ND	-5	:2 :2
CHLOROME! HANE CIS-1,2-DICHLOROETHENE CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE DIBROMOMETHANE DICHLORODIFLUOROMETHANE ETHYL REMYENE	ND ND	. <u>5</u>	.2
ETHYLBENZENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE	ND ND	ฃ๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛๛	:5
M/D-XYI FNES	ND ND ND	.5 1	: \$
MÉTHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE	ND ND	.5	.غ
NAPHTHALENE O-XYLENE	ND ND	.5 -5	.3
P-TSOPROPYLTOLUENE SEC-BUTYLBENZENE STYRENE	ND ND	.5	.2
ŠŤÝRÉNE TERT-BUTYLBENZÉNÉ TETRACHLOROETHYLÉNÉ	ND ND	.5 .5	.2
TETRACHLOROETHYLENE TOLUENE	ND ND	.5	.2
TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE	ND ND	.5	:5
TOLUENE TRANS-1,2-DICHLOROETHENE TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE TRICHLOROFLOROMETHANE VINYL CHLORIDE	ND ND ND	1	๛ กับกับกับกับกับกับกับกับกับกับกับกับกับก
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4 TOLUENE-D8	102 93	62-139 75-125	
TÓLUENE-D8 BROMOFLUOROBENZENE	109 109	75-125 75-125	
R.L.: Reporting limit * : Out of QC			
E : Exceeded calibration range	nk		
J : Value between R.L. and MDL D : Value from dilution analysis			
D.O. : Diluted out			

Revised Report

lient : TETRA TECH FW, INC. roject : MFA, SITE 1, CTO 86 atch No. : Q4K099 ample ID: 86-S1-065 ab Samp ID: K099-04 ab File ID: RK0586 xt Btch ID: V094K45 alib. Ref.: RJD151	Date Date Date Diluti - Matrix % Mois Instru	on ractor: WATE ture : NA ment ID : T-09	0/04 1/04 20/04 22:41 20/04 22:41 ER
ARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
ARAMETERS 1.1.2-TETRACHLOROETHANE 1.1-TRICHLOROETHANE 1.2.2-TETRACHLOROETHANE 1.2.2-TETRACHLOROETHANE 1.2.1-TRICHLOROETHANE 1.2.1-TRICHLOROETHANE 1.2.1-TRICHLOROETHANE 1.3-TRICHLOROPROPENE 1.3-TRICHLOROBENZENE 1.3-TRICHLOROBENZENE 1.4-TRICHLOROBENZENE 1.4-TRICHLOROBENZENE 1.4-TRICHLOROBENZENE 1.4-TRICHLOROBENZENE 1.2-DICHLOROBENZENE 1.3-TRICHLOROBENZENE 1.3-TRICHLOROPROPANE 1.3-TRICHLOROPROPANE 1.3-TRIMETHYLBENZENE 1.3-TRIMETHYLBENZENE 1.3-TRIMETHYLBENZENE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE	ND	.5 .5	-2
,1,2,2-TETRACHLOROETHANE	ND ND	. 1	.3
,1,2-TRICHLOROETHANE ,1-DICHLOROETHANE	ND ND ND	.5	: <u>2</u>
,1-DICHLOROETHENE .1-DICHLOROPROPENE	ND	.5	.2
, 2, 3-TRICHLOROBENZENE	ND ND	•5	.2
,2,4-TRICHLOROBENZENE	ND ND	.5	.5
,2-DIBROMO-3-CHLOROPROPANE	ND	- کُو	- 1
,2-DICHLOROBENZENE ,2-DICHLOROETHANE	ND ND ND	.5	Š.
,2-DICHLOROPROPANE ,3,5-TRIMETHYLBENZENE	ND	.5	.2
.3-DICHLOROBENZENE .3-DICHLOROPROPANE	ND ND	.5 .5	.2 .2
4-DICHLOROBENZENE	ND ND	.5	-2
-BUTANONE	ND ND	iģ	-5
-BUTANUNE -CHLOROTOLUENE -HEXANONE -CHLOROTOLUENE -METHYL-2-PENTANONE CETONE	ND	ī́อี	- 1
-CHLORO: OLGENE -METHYL-2-PENTANONE	ND ND	įģ	- 2
CETONE ENZENE	ND ND	10 .5	.2
ROMOBENZENE ROMOCHLOROMETHANE	ND ND	.5 .5	.2
ROMODICHLOROMETHANE	ND ND	.5	.2
ENZENE ROMOBENZENE ROMOCHLOROMETHANE ROMOD I CHLOROMETHANE ROMOFORM ROMOMETHANE ROMOMETHANE ARBON DISULFIDE ARBON TETRACHLORIDE HLOROSENZENE	ND ND	מייטיטיטיטיטיטיטיטיטיטיטיטיטיטיטיטיטיטי	.2
ARBON TETRACHLORIDE	ND	:5ౖ	:5
HLOROETHANE	ND ND	.1	:5
HLOROBENZENE HLOROFORM HLOROFORM HLOROMETHANE IS-1,2-DICHLOROETHENE IS-1,3-DICHLOROPROPENE IBROMOCHLOROMETHANE IBROMOCHLOROMETHANE	ND ND	• <u>1</u>	:5
IS-1,2-DICHLOROETHENE IS-1.3-DICHLOROPROPENE	ND ND	:5	.2
IBROMOCHLOROMETHANE IBROMOMETHANE	ND ND	.5 .5	.2
ICHLORODIFLUOROMETHANE	ND ND	1	.5
EXACELOROBUTAD I ENE	ND ND	.5	: 5
/P-XYLENES	ND	<u>-</u> 1	֡֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓
-BUTYLBENZENE_	ND ND	.5	ء غ
-PROPYLBENZENE APHTHALENE	ND ND	.5	: 3
-XYLENE -ISOPROPYLTOLUENE	ND ND	.5 .5	:2
EC-BUTYLBENZENE	Ди	.5 .5	.2
ERT-BUTYLBENZENE	ND ND	٠ُξ	.5
OLUENE	ND	.5	.5
RANS-1,2-DICHLOROETHENE RANS-1,3-DICHLOROPROPENE	ND ND ND	. <u>ş</u>	:2
IBROMOCHLOROMETHANE IBROMOMETHAME ICHLORODIFLUOROMETHANE ICHLORODIFLUOROMETHANE ITHYLBENZENE EXACHLOROBUTADIENE SOPROPYL BENZENE (P-XYLENES ETHYLENE CHLORIDE -PROPYLBENZENE APHTHALENE -ISDPROPYLTOLUENE EC-BUTYLBENZENE ETTSUFFENE ET	ND ND ND	<u> </u>	นักมีการเกราะ การเกราะ การเกราะการเกราะการเกราะการเกราะการการเกราะการการการการการการการการการการการการการก
URROGATE PARAMETERS	% RECOVERY	QC LIMIT	
2-DICHLOROETHANE-D4 ÖLUENE-D8 BROMOFLUOROBENZENE	105 93 101	62-139 75-125 75-125	
OLUENE-DÖ ROMOFI LIORORENZENE	95 101	75-125	

E : Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O. : Diluted out

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K099 Sample ID: 86-51-066 Lab Samp ID: K099-05 Lab File ID: RK0587 Ext Btch ID: V094K45 Calib. Ref.: RJ0151	Date Date Date Date Date Date Diluti - Matrix % Mois Instru	: WAIE ture : NA ment ID : T-09	
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
1, 1, 2-TETRACHLOROETHANE 1, 1, 1-TRICHLOROETHANE 1, 1, 2-TETRACHLOROETHANE 1, 1, 2-TETRACHLOROETHANE 1, 1, 2-TETRACHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 1-DICHLOROETHANE 1, 2, 3-TRICHLOROBENZENE 1, 2, 3-TRICHLOROBENZENE 1, 2, 3-TRICHLOROBENZENE 1, 2, 1-TRICHLOROBENZENE 1, 2-DICHLOROBENZENE 1, 2-DICHLOROBENZENE 1, 2-DICHLOROBENZENE 1, 2-DICHLOROETHANE 1, 2-DICHLOROETHANE 1, 3, 5-TRIMETHYLBENZENE 1, 3, 5-TRIMETHYLBENZENE 1, 3-DICHLOROBENZENE 1, 3-DICHLOROBENZENE 1, 3-DICHLOROBENZENE 1, 3-DICHLOROBENZENE 1, 3-DICHLOROBENZENE 2-DICHLOROBENZENE 2-DICHLOROBENZENE 2-DICHLOROBENZENE 2-DICHLOROPROPANE		.5	
1,1,1-TRICHLOROETHANE	ND ND ND	• <u>5</u> •1	.2
1,1,2-TRICHLOROETHANE	ND ND	- Ę	.3
1,1-DICHLOROETHENE	ND	.5	.5
1,2,3-TRICHLOROBENZENE	ND ND	.5	:ž
1,2,3-TRICHLOROPROPANE 1,2,4-TRICHLOROBENZENE	ND ND	.5 .5	.2
1,2,4-TRIMETHYLBENZENE 1,2-DIBROMO-3-CHLOROPROPANE	ND ND	.5	.2
1.2-DICHLOROBENZENE	ND ND	٠ <u>5</u>	-غ
1,2-DICHLOROPROPANE	ND	.5	.2
1,3-DICHLOROBENZENE	ND ND	:5	.2
1,3-DICHLOROPROPANE 1.4-DICHLOROBENZENE	ND ND	:5 :5	.2
2,2-DICHLOROPROPANE	ND ND	.5 10	.2
2/2-01CHLOROPROPANE 2-BUTANONE 2-CHLOROTOLUENE 2-HEXANONE 4-CHLOROTOLUENE 4-METHYL-2-PENTANONE ACETONE BENZENE	ND ND	15	٠.2
4-CHLOROTOLUENE	ND	15	٠.2
ACETONE	ND ND	10	ڬۣ
ACE LONE BENZENE BROMOBENZENE BROMODICHLOROMETHANE BROMODICHLOROMETHANE BROMOBERM	DK DK	.5 .5	:2
BROMOCHLOROMETHANE BROMODICHLOROMETHANE	ND ND	. 5	2
BROMOFORM BROMOMETHANE	ND ND .23J	1	-5
BROMOFORM BROMOMETHANE BROMOMETHANE CARBON DISULFIDE CARBON TETRACHLORIDE CHLOROBENZENE CHLOROBENZENE CHLOROBETHANE	.23J	.ģ	.2
CHLOROBENZENE	ND ND	.5	:ַֿבַ
CHLOROFORM	ND ND	.5	. <u>\$</u>
CHLOROMETHANE CIS-1,2-DICHLOROETHENE	ND ND	.5	.2
CIS-1,3-DICHLOROPROPENE DIBROMOCHLOROMETHANE	ND ND	.5 .5	.2
DIBROMOMETHANE	ND ND	.5 1	-2
ETHYLBENZENE	ND ND	.5	- 2
I SOPROPYL BENZENE	ND	.5	:2
METHYLENE CHLORIDE	ND ND	ž	.1
N-BUTYLBENZENE N-PROPYLBENZENE	ND ND	:5	:2
CHLOROETHANE CHLOROFORM CHLOROFORM CIS-1,2-DICHLOROETHENE CIS-1,3-DICHLOROETHENE CIS-1,3-DICHLOROETHENE DISCMOCHLOROMETHANE DISCMOCHLOROMETHANE DISCMOCHLOROMETHANE DICHLORODIFLUOROMETHANE ETHYLENE HEXACHLOROBUTADIENE ISOPROPYL BENZENE M/P-XYLENES METHYLENE CHLORIDE N-BUTYLBENZENE N-PROPYLBENZENE N-PROPYLBENZENE NAPHTHALENE O-XYLENE P-ISOPROPYLTOLUENE SEC-BUTYLBENZENE STYRENE STYRENE STYRENE STYRENE STYRENE STYRENE	ND ND	ຜູ້ຄົນກຳການທິດທິດທິດທິດທິດທິດທິດທິດທິດທິດທິດທິດທິດທ	น้ำมีการเกาะ เกาะ เกาะ เกาะ เกาะ เกาะ เกาะ เกาะ
P-ISOPROPYLTOLUENE	ND ND	.5 .5	.2
STYRENE TENT-DUTY DENZENE	ND ND	.5	.2
TETRACHLOROETHYLENE	ND ND	:5	:5
TRANS-1,2-DICHLOROETHENE	ND	:5ٍ	:5
TRANS-1,3-DICHLOROPROPENE TRICHLOROETHENE	ND ND	:5	:2
STYRENE TERT-BUTYLBENZENE TETRACHLOROETHYLENE TOLUENE TRANS-1, 2-DICHLOROETHENE TRANS-1, 3-DICHLOROPROPENE TRICHLOROETHENE TRICHLOROFLUDROMETHANE VINYL CHLORIDE	ND ND	1	.3
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
1,2-DICHLOROETHANE-D4	102	62-139	
1, 2-DICHLOROETHANE-D4 TÓLUENE-D8 BROMOFLUOROBENZENE	102 92 102	62-139 75-125 75-125	
R.L.: Reporting limit * : Out of QC			
* : Out of QC E : Exceeded calibration range B : Found in associated method b	t t.		
E : Exceeded calibration range B : Found in associated method b J : Value between R.L. and MDL	lank		

E Exceeded calibration range
B : Found in associated method blank
J : Value between R.L. and MDL
D : Value from dilution analysis
D.O.: Diluted out

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04K099 Sample ID: 86-S1-067 Lab Samp ID: KO99-06 Lab Fite ID: RKD588 Ext Btch ID: V094K45 Calib. Ref.: RJD151	- · Matrix % Mois	Collected: 11// Received: 11// Extracted: 11// Analyzed: 11// on Factor: 1 : WATE ture : NA ment ID : T-09	R
PARAMETERS 1.1.1.2-TETRACHLOROETHANE 1.1.1.TICHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TETRACHLOROETHANE 1.1.2-TICHLOROETHANE 1.1.1-DICHLOROETHANE 1.1.1-DICHLOROETHANE 1.2.3-TRICHLOROBENZENE 1.2.3-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.4-TRICHLOROBENZENE 1.2.1-DICHLOROBENZENE 1.2.1-DICHLOROBENZENE 1.2.1-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.2-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.4-DICHLOROPROPANE 1.4-DICHLOROPROPANE 1.4-DICHLOROPROPANE 1.4-DICHLOROPROPANE 1.4-DICHLOROPROPANE 1.4-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPANE 1.3-DICHLOROPROPENE BROMOGHLOROMETHANE BROMOGHLOROMETHANE BROMOGHLOROMETHANE CARBON DISULFIDE CARBON TIRACHLORIDE CHLOROPROPANE CHLOROPROPANE CHLOROPROPANE CHLOROPROPANE DIBROMOMETHANE CIS-1.3-DICHLOROPROPENE DIBROMOMETHANE DICHLOROPTHANE CIS-1.3-DICHLOROPROPENE DIBROMOMETHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DIROMOMETHANE DICHLOROPTHANE DICHLOROPTHANE DICHLOROPTHANE DIROMOMETHANE DICHLOROPTHANE DIROMOMETHANE DICHLOROPTHANE TRICHLOROPTHANE DICHLOROPTHANE ois	ture : NA		
E : Exceeded calibration range B : Found in associated method bla J : Value between R.L. and MDL D : Value from dilution analysis D.O. : Diluted out	ank		

Revised Report

1	Client: TETRA TECH FW INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04K099 Sample ID: 86-S1-068 Lab Samp ID: K099-07 Lab File ID: RKD589 Ext Btch ID: V094K45 Calib. Ref.: RJD151	- Diluti - Matrix % Mois Instru	Collected: 11/1 Received: 11/1 Extracted: 11/2 Analyzed: 11/2 on Factor: 1 : WATE ture : NA ment ID : T-09	
p.o.: Diluted out	1,1,2-TETRACHLOROETHANE 1,1-TRICHLOROETHANE 1,1-Z-TETRACHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROETHANE 1,1-DICHLOROPROPENE 1,2-3-TRICHLOROBENZENE 1,2-3-TRICHLOROBENZENE 1,2-3-TRICHLOROBENZENE 1,2-TRICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 1,3-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,2-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,3-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROPROPANE 2,4-DICHLOROMETHANE BROMOCHLOROMETHANE BROMOCHLOROMETHANE BROMOCHLOROMETHANE BROMOCHOROMETHANE CARBON DISULFIDE CARBON DISULFI	(9/1)	G (42) T (42) T (42)	EL) NAMANANANANANANANANANANANANANANANANANAN

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K099

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Six (6) water samples were received on 11/11/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample K099-07 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K099 Sample ID: 86-\$1-063 Lab Samp ID: K099-02 Lab File ID: RLH034 Ext Stch ID: SVK019W Calib. Ref.: RLH007	Date Collected: 11/09/04 Date Received: 11/11/04 Date Extracted: 11/15/04 18:00 Date Analyzed: 12/03/04 16:40 Dilution Factor: .94 - Matrix WATER % Moisture NA Instrument ID : T-041
PARAMETERS 2. 4, 5-TRICHLOROPHENOL 2. 4, 6-TRICHLOROPHENOL 2. 4-DIMITROPHENOL 2. 4-DIMITROPHENOL 2. 4-DIMITROPHENOL 2. 4-DIMITROPHENOL 2. 4-DIMITROPHENOL 2. 4-DIMITROPHENOL 2. 4-DIMITROTOLUENE 2. 6-DIMITROTOLUENE 2. CHLOROPHENOL 2. MITROPHENOL 4. 6-DIMITRO-2-METHYLPHENOL 4. 6-DIMITRO-2-METHYLPHENOL 4. 6-DIMITRO-2-METHYLPHENOL 4. CHLOROPHENYL-PHENYL ETHER 4. CHLOROMILINE 4. CHLOROMILINE 4. MITROPHENOL 4. MITROPHENOL 4. MITROPHENOL 4. MITROPHENOL 4. MITROPHENOL 4. MITROPHENOL 4. MITROPHENOL 4. MITROPHENOL 4. MITROPHENOL 6. MIT	RESULTS (Ug/L) 100 100 100 100 100 100 100 1
SOURCOGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 R): Reporting Limit	93 25-125 44 32-125 54 32-125 49 25-125 109 42-126

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : IETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No. : 04K099 Sample ID: 86-S1-064 Lab Samp ID: K099-03 Lab File ID: RLH035 Ext Btch ID: SWK019W Calib. Ref.: RLH007	Date Collected: 11/09/04 Date Received: 11/11/04 Date Extracted: 11/15/04 18:00 Date Analyzed: 12/03/04 17:07 Dilution Factor: 94 Matrix Moisture NA Instrument ID: T-041
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4-DIMETHYL PHENOL 2.4-DIMETHYL PHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.5-DIMITROPHENOL 2.5-CHLORONAPHTHALENE 2.6-CHLORONAPHTHALENE 2.6-CHLOROPHENOL 2.MITROPHENOL 2.MITROPHENOL 2.MITROPHENOL 3.3-DICHLOROBENZIDINE 3.4-DIRITROPHENOL 4.5-DIMITROP-PHENYL ETHER 4.6-DIMITROP-PHENYL ETHER 4.6-DIMITROP-PHENYL ETHER 4.6-CHLORO-3-METHYLPHENOL 4.5-DIMITROP-PHENYL ETHER 4.6-CHLORO-3-METHYLPHENOL 4.7-MITROPHENOL 4.7-MITR	RESULTS (ug/L) (ug/L) (ug/L) ND 9.4 4.77 N
2.4.6-TRIBROMOPHENOL 2.fLUOROBIPHENVL 2.fLUOROBIPHENVL NITROBENZENE-D5 PHENOL-D5 TERPHENVL-D14 RL: Reporting Limit	92 25-134 67 45-125 78 25-125 72 35-125 112 42-126

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : Q4K099	Date Date Date Date	Collected: 11/ Received: 11/ Extracted: 11/	10/04 11/04 15/04 18:00 13/04 17:35
Client: TETRA TECH FW, INC. Project: MFA SITE 1, CTO 86 Batch No.: 04K099 Sample ID: 86-S1-065 Lab Samp ID: K099-04 Lab Fite ID: RLH036 Ext Btch ID: SVK019W Calib. Ref.: RLH007	Date Diluti - Matrix % Mois Instru	Collected: 11// Received: 11// Extracted: 11// Analyzed: 12/(on Factor: .94 (:ture WATE (ment ID : T-04	10/04 11/04 15/04 18:00 13/04 17:35 ER
PARAMETERS	RESULTS (ug/L)		MDL (ug/L)
2.4.5-IRIGHLOROPHENOL 2.4.5-IRIGHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.CHLOROPHENOL 2.CHLOROPHENOL 2.METHYLPHENOL 2.METHYLPHENOL 2.MITROPHENOL 2.NITROPHENOL 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE	ND ND ND ND ND ND ND ND ND ND	9999 9999 999	444995444454449644444444444444444444444
4-0-DINI INC-Z-METHYL FIENDL 4-BROMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER 4-METHYLPHENOL (1) 4-NITROANILINE 4-NITROANILINE 4-NITROPHENOL ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE	ND ND ND ND ND ND ND ND ND ND	99999 9999999	76444444444444444444444444444444444444
BENZO(3, H. Y) PERYLENE BIS(2-CHLOROETHOXY) METHANE BIS(2-CHLOROETHYL) ETHER BIS(2-CHLOROISOPROPYL) ETHER BIS(2-CHLOROISOPROPYL) ETHER BIS(2-ETHYLHEXYL) PHITHALATE CHRYSENE DI-N-BUTYLPHITHALATE DI-N-BUTYLPHITHALATE DI-N-OCTYLPHITHALATE DIBENZO(A, H) ANTHRACENE DIBENZO(A, H) ANTHRACENE DIBENZO(A, H) ANTHRACENE DIBENZOFURAN DIETHYLPHITHALATE DIMETHYLPHTHALATE	ND ND ND ND ND ND ND ND ND ND ND ND ND	9999 999999 999999 999999 999999 999999	777744494444444444444444444444444444444
2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DIMITROTOLUENE 2,2-DIMITROTOLUENE 2,2-DIMITROTOLUENE 2,2-DIMITROTOLUENE 2,2-DIMITROTOLUENE 2,2-DIMITROTOLUENE 2,2-DIMITROTOLUENE 2,2-DIMITROTOLUENE 2,3-DIMITROTOLUENE 2,3-DIMITROPHENOL 2,METHYLMAPHTHALENE 2,MITROPHENOL 2,MITROPHENOL 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 4,0-DIMITRO-2-METHYLPHENOL 4,0-DIMITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-MITROPHEMOL 4-NITROPHEMOL 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(CALLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHALATE DIBNIZO(A, HANTHRACENE DIBNIZO(RL) 444400 9 900 900 900 9000 9000000000000	7777744077774677777777777777774044444444
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2.FLUOROBIPHENYL 2.FLUOROBIPHENYL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	% RECOVERY 87 78 68 85 74 111	QC LIMIT -25-124 -33-125 -25-125 -32-125 -25-125 -125 -126	

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No.: 04K099 Sample ID: 86-S1-066 Lab Samp ID: K099-05 Lab File ID: RH037 Ext Btch ID: SVK019W Calib. Ref.: RLH007	Date Date Date Date Date Diluti - Matrix % Mois Instru		0/64 1/04 5/04 18:00 3/04 18:02 R
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-CHLOROPHENOL 2.METHYLNAPHTHALENE 2.CHLOROPHENOL 2.MITROANTLINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.4-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 4.6-ROMOPHENYL-PHENYL ETHER 4.6-CHLORO-3-METHYLPHENOL 4.CHLOROPHENYL-PHENYL ETHER 4.MITROMILLINE 4.MITROMILLINE 4.MITROMILLINE 4.MITROMILLINE 4.MITROMILLINE 4.MITROMILLINE 4.MITROMILLINE 4.MITROMILLINE BENZO(A)AMTHRACENE BENZO(A)AMTHRACENE BENZO(A)AWTHRACENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(C, H, I)PERYLENE BE	TSU1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	RL) 4444000044440044440044444444444444444	
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2-FLUDROBIPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENOL-D14 PLReporting Limit	75 69 67 82 69 102	QC LIMIT 25-134 43-125 25-125 32-125 32-125 42-126	

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No.: 04K099 Sample ID: 86-S1-067 Lab Samp ID: K099-06 Lab Fite ID: RHHO38 Ext Btch ID: SVK019W Calib. Ref.: RLHO07	Date (Date Date Date Date Dilutiv - Matrix Moist Instru	Helit 10 . I-O	10/04 11/04 15/04 18:00 03/04 18:30 ER
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MD((ug/L)
2,4,5-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLOROPHENOL 2-METHYLPHENOL 2-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 4-DINITRO-2-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-METHYLPHENOL 4-MITROPHITUPL HENYL ETHER 4-MITROPHITUPL HENYL ETHER 4-MITROPHITUPL HENYL ETHER 4-MITROPHITUPL HENYL ETHER 4-MITROPHENOL ACENAPHTHENE ANTHRACENE BENZO(3, A)AWITRACENE BENZO(3, PYRENE BENZO(3, PYRENE BENZO(3, PYRENE BENZO(3, PYRENE BENZO(3, PYRENE BENZO(3, PYRENE BENZO(3, PYRENE BENZO(3, PYRENE BENZO(4, PYRENE BENZO(4, PYRENE BENZO(5, FLUORANTHENE BENZO(5, FLUORANTHENE BENZO(6, MITPOPHYLENE BIS(2-CHLOROETHOLY)METHANE BIS(2-CHLOROETHOLY)METHANE BIS(2-CHLOROETHOLY)BITHER BIS(2-CHL	7) 1900		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
ATRAZINE ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE SURROGATE PARAMETERS	ND ND ND ND % RECOVERY	9.4 9.4 9.4 QC LIMIT	4.7
2.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	85 77 71 83 75 107	25-134 43-125 25-125 32-125 25-125 42-126	
RL: Reporting Limit			

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No. : 04K099 Sample ID: 86-S1-068 Lab Samp ID: K099-07 Lab File ID: RLH039 Ext Btch ID: SVK019W Calib. Ref.: RLH007	Date E Date Dilutio - Matrix % Moist	Collected: 11/1 Received: 11/1 Retracted: 11/1 Analyzed: 12/0 on Factor: 94 Eure : NA ment ID : T-04	0/04 1/04 1/04 15/04 18:00 3/04 18:57 R
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.6-DIMETHYLPHENOL 2.4.0-DIMITROPHENOL 2.4.0-DIMITROPHENOL 2.4.0-DIMITROTOLUENE 2.5.0-DIMITROTOLUENE 2.5.0-DIMITROTOLUENE 2.5.0-DIMITROTOLUENE 2.5.0-DIMITROTOLUENE 2.5.0-DIMITROTOLUENE 2.5.0-DIMITROTOLUENE 2.5.0-MITROMILINE 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 2.5.1-MITROPHENOL 3.1-MITROPHENOL 2.5.1-MITROPHENOL 3.1-MITROPHENOL 3.1-MITROPHENOL 3.1-MITROPHENOL 3.1-MITROPHENOL 3.1-MITROPHENOL 3.1-MITROPHENOL 3.1-MITROPHENOL 3.1-MITROPHENOL 4.5.1-MITROPHENOL 4.5.1-MITROPHENOL 4.5.1-MITROPHENOL 4.5.1-MITROPHENOL 4.5.1-MITROPHENOL 4.5.1-MITROPHENOL 5.1-MITROPHENOL 6.1-MITROPHENOL - 	RL) 44449004444904444904444444444444444444	##	
	% RECOVERY 	QC LIMIT -25-134 43-125 -125-125 -125 -125 -126	

(1): Cannot be separated from 3-Methylpheno(2): Cannot be separated from Diphenylamine



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K099

SW3520C/8081A PESTICIDES

Six (6) water samples were received on 11/11/04 for Pesticides analysis by Method 3520C/8081A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was at six points for Pesticides, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and mean recoveries were within 85-115%.

Endrin and DDT breakdown were within QC limit.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample K099-07 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

When sample results are confirmed by a second column, the relative percentage difference (RPD) between the two results is calculated. If RPD is less than 40%, and no evidence of chromatographic problems, the higher result is reported. If RPD is greater than 40%, the chromatogram is checked for anomalies and results are selected based on the best professional judgement. If no evidence of any chromatographic problems, the higher result is reported.



SW3520C/8081A PESTICIDES

: TETRA TECH FW, INC. Client Date Collected: 11/09/04 Project : MFA, SITE 1, CTO 86 Date Received: 11/11/04 Date Extracted: 11/16/04 19:00 Batch No. : 04K099 Sample ID: 86-\$1-063 Date Analyzed: 11/18/04 11:11 ·Lab Samp ID: K099-02R Dilution Factor: .94 Lab File ID: SK17047A Matrix : WATER Ext Btch ID: CPK014W % Moisture : NA

Calib. Ref.: SK17035A Instrument ID : GCT008

RESULTS MDL PARAMETERS (ug/L) (ug/L) (ug/L) (ND) ND .0094|.0094 ALPHA-BHC .047 .0094 .0094 GAMMA-BHC (LINDANE) (ND) ND .047 BETA-BHC (ND) ND .047 .0094 .0094 (ND) 038J .047 .0094 | .0094 **HEPTACHLOR** DELTA-BHC (ND) ND .047 .0094 .0094 (ND) ND .047 .0094 .0094 ALDRIN .047 .0094 _0094 **HEPTACHLOR EPOXIDE** (ND) ND GAMMA-CHLORDANE .026J|(ND) -047 .0094 .0094 ALPHA-CHLORDANE (ND) ND .047 .0094 .0094 ENDOSULFAN I (ND) ND .047 .028 .028 .094 .028 .028 4.4'-DDE (ND) ND (ND) ND . 19 .094 .094 DIELDRIN .094 .019 .019 ENDRIN .094 (ND) ND .028 .028 4,4'-DDD .094 ENDOSULFAN II (ND) ND .019 .019 4,4'-DDT (ND) ND .094 .019 .019 ENDRIN ALDEHYDE (ND) ND .094 .019 .019 (ND) ND .094 .019 .019 ENDOSULFAN SULFATE .019 .019 (ND) ND .094 ENDRIN KETONE .47 METHOXYCHLOR (ND) ND 2.8 1.2 1.2 TOXAPHENE (ND) ND SURROGATE PARAMETERS % RECOVERY QC LIMIT

TETRACHLORO-M-XYLENE 62 (69) 30-130
DECACHLOROBIPHENYL 81 (97) 30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column

() included the reported column



SW3520C/8081A PESTICIDES

Client : TETRA TECH FW, INC. Date Collected: 11/09/04 Project : MFA, SITE 1, CTO 86 Date Received: 11/11/04 Batch No. : 04K099 _ -Date Extracted: 11/16/04 19:00 Sample ID: 86-S1-064 Lab Samp ID: K099-03R Date Analyzed: 11/18/04 11:36 Dilution Factor: .94 Lab File ID: SK17048A Ext Btch ID: CPK014W : WATER Matrix % Moisture : NA Calib. Ref.: SK17035A Instrument ID : GCT008

	RESULTS	RLMDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)

ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) ND	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	.027J (ND)	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(DA) (DA)	.094 .019 .019
ENDRIN ALDEHYDE	CDD) DD	_094 _019 _019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(DA) DA	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	69 (74)	30-130
DECACHLOROBIPHENYL	88 (103)	30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column () included the reported column



Date Collected: 11/10/04 Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04K099 Sample ID: 86-S1-065 Date Received: 11/11/04 - Date Extracted: 11/16/04 19:00 Date Analyzed: 11/18/04 12:02 Lab Samp ID: K099-04R Dilution Factor: .94

: WATER Lab File ID: SK17049A Matrix Ext Btch ID: CPK014W % Moisture : NA Instrument ID : GCT008 Calib. Ref.: SK17035A

	RESULTS	RL MD1.
PARAMETERS	(ug/L)	(ug/L) (ug/L)

ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(D) (CEO.	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,41-DDE	(ND) ND	.094 .028 .028
DIELDRIN	GN (CDN)	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	(DN) DN	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019 .019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) (ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	-094 -019 -019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT

TETRACHLORO-M-XYLENE	94 (97)	30-130
DECACHLOROBIPHENYL	84 (103)	30-130

RL : Reporting limit Left of $\|$ is related to first column ; Right of $\|$ related to second column () included the reported column



: TETRA TECH FW, INC. Date Collected: 11/10/04 : MFA, SITE 1, CTO 86 Date Received: 11/11/04
Date Extracted: 11/16/04 19:00 Project Batch No.: 04K099 Sample ID: 86-S1-066 Date Analyzed: 11/18/04 12:27 Lab Samp ID: K099-05R Dilution Factor: .94 Lab File ID: SK17050A Matrix : WATER : NA Ext Btch ID: CPK014W % Moisture Calib. Ref.: SK17035A Instrument ID : GCT008

	RESULTS	RL _s MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	(ND) ND	.047 .0094 .0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(ND) .024J	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,41-DDE	(ND) ND	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,41-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019
4,4'-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019].019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) .032J	.094 .019 .019
METHOXYCHLOR	(ND) [ND	.47 .094].094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	85 (93)	30-130
DECACHLOROBIPHENYL	83 (100)	30-130

RL : Reporting limit Left of \mid is related to first column ; Right of \mid related to second column

() included the reported column



Client : TETRA TECH FW, INC. Date Collected: 11/10/04 Project : MFA, SITE 1, CTO 86 Batch No. : 04K099 Date Received: 11/11/04 - Date Extracted: 11/16/04 19:00

Sample ID: 86-S1-067 Lab Samp ID: K099-06R Date Analyzed: 11/18/04 12:52 Dilution Factor: .94

Matrix : WATER Lab File ID: SK17051A Ext Btch ID: CPK014W % Moisture : NA Calib. Ref.: SK17035A Instrument ID : GCT008

	RESULTS	RL MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALPHA-BHC	.017J (ND)	.047 .00941.0094
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	.034J (ND)	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(ND) ND	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4'-DDE	(ND) (ND	.094 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.094 .019].019
4,41-DDT	(ND) ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 . 01 9 .019
ENDOSULFAN SULFATE	(DN) DN	.094 . 01 9].019
ENDRIN KETONE	CND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) D	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE DECACHLOROBIPHENYL	(101) 95 83 (99)	30-130 30-130

RL : Reporting limit left of | is related to first column ; Right of | related to second column () included the reported column



Client : TETRA TECH FW, INC.

Project : MFA, SITE 1, CTO 86
Batch No. : 04K099

Sample ID: 86-S1-068
Lab Samp ID: K099-07R
Lab File ID: SK17052A

Date Collected: 11/10/04

Received: 11/11/04

Pate Extracted: 11/16/04 19:00

Date Analyzed: 11/18/04 13:18

Dilution Factor: .94

Matrix : WATER

Lab File ID: SK1705ZA Matrix : WATER
Ext Btch ID: CFK014W % Moisture : NA
Calib. Ref.: SK17035A Instrument ID : GCT008

	RESULTS	RL_ MDL
PARAMETERS	(ug/L)	(ug/L) (ug/L)
ALDUA BUD	auna lun	.047 .00941.0094
ALPHA-BHC	(ND) ND	
GAMMA-BHC (LINDANE)	(ND) ND	.047 .0094 .0094
BETA-BHC	(ND) ND	.047 .0094 .0094
HEPTACHLOR	(ND) ND	.047 .0094 .0094
DELTA-BHC	(ND) ND	.047 .0094 .0094
ALDRIN	(D) (C)	.047 .0094 .0094
HEPTACHLOR EPOXIDE	(ND) ND	.047 .0094 .0094
GAMMA-CHLORDANE	(ND) ND	.047 .0094 .0094
ALPHA-CHLORDANE	(D) D	.047 .0094 .0094
ENDOSULFAN I	(ND) ND	.047 .028 .028
4,4*-DDE	(DN) (DN)	.094 .028 .028
DIELDRIN	(ND) ND	.19 .094 .094
ENDRIN	(ND) ND	.094 .019 .019
4,4'-DDD	(ND) ND	.094 .028 .028
ENDOSULFAN II	(ND) ND	.019 .019
4,4'-DDT	(ND) [ND	.094 .019 .019
ENDRIN ALDEHYDE	(ND) ND	.094 .019 .019
ENDOSULFAN SULFATE	(ND) ND	.094 .019 .019
ENDRIN KETONE	(ND) ND	.094 .019 .019
METHOXYCHLOR	(ND) ND	.47 .094 .094
TOXAPHENE	(ND) ND	2.8 1.2 1.2
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT

TETRACHLORO-M-XYLENE	73 (82)	30-130
DECACHLOROBIPHENYL	82 (98)	`30-130

RL: Reporting limit

Left of | is related to first column ; Right of | related to second column () included the reported column

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K099

SW3520C/8082 PCBs

Six (6) water samples were received on 11/11/04 for PCBs analysis by Method 3520C/8082 in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Instrument Performance and Calibration

Initial calibration was five points for PCB-1016 and PCB-1260, all RSDs were within 20%. All continue calibrations were analyzed at 12-hour interval and all recoveries were within 85-115%.

Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

All recoveries were within QC limits.

6. Matrix Spike/Matrix Spike Duplicate

Sample K099-07 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.



: TETRA TECH FW, INC. Date Collected: 11/09/04 Project : MFA, SITE 1, CTO 86 Date Received: 11/11/04 Batch No.: 04K099 Sample ID: 86-S1-063 - Date Extracted: 11/16/04 19:00 Date Analyzed: 11/18/04 11:11 Dilution Factor: .94 Lab Samp ID: K099-02R Lab File ID: SK17047A : WATER Matrix Ext Btch ID: CPK014W % Moisture : NA Calib. Ref.: SK17038A Instrument ID : GCT008

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.94	-24 -24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(61) [69	30-130	
DECACHLOROBIPHENYL	(81) 104	30-130	

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit



: TETRA TECH FW, INC. Date Collected: 11/09/04 Project : MFA, SITE 1, CTO 86
Batch No. : 04K099
Sample ID: 86-S1-064
Lab Samp ID: K099-03R
Lab File ID: SK17048A Date Received: 11/11/04 - Date Extracted: 11/16/04 19:00 Date Analyzed: 11/18/04 11:36 Dilution Factor: .94 WATER Matrix Ext Btch ID: CPK014W : NA % Moisture Instrument ID : GCT008 . Calib. Ref.: SK17038A

PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PCB-1016	(ND) ND	.9 4	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	-94	.24 .24
PCB-1242	(ND) ND	-94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(64) 74	30-130	
DECACHLOROBIPHENYL	(87) 110	30-130	

RL: Reporting Limit

Left of | is related to first column; Right of | related to second column () included the reported column * Out side of QC Limit



Client : TETRA TECH FW, INC. Date Collected: 11/10/04 Project : MFA, SITE 1, CTO 86 Date Received: 11/11/04

Batch No. : 04K099 - Date Extracted: 11/16/04 19:00 Sample ID: 86-S1-065 Date Analyzed: 11/18/04 12:02

 Sample
 ID:
 86-S1-065
 Date
 Analyzed:
 11/18/C

 Lab Samp ID:
 K099-04R
 Dilution Factor:
 .94

 Lab File ID:
 SK17049A
 Matrix
 : WATER

 Ext Btch ID:
 CPK014W
 % Moisture
 : NA

 Calib.
 Ref.:
 SK17038A
 Instrument ID:
 GCT008

RESULTS RL- MDL
PARAMETERS (ug/L) (ug/L) (ug/L)
PCB-1016 (ND) ND .94 .24 .24

.24 .24 .24 .24 .24 .24 .94 PCB-1221 (ND) ND .94 PCB-1232 (ND) ND PCB-1242 (ND) ND .94 .24 .24 PCB-1248 (ND) ND .94 .24 .24 .24 .24 PCB-1254 (ND) ND .94 .94 PC8-1260

 SURROGATE PARAMETERS
 % RECOVERY
 QC LIMIT

 TETRACHLORO-M-XYLENE
 (83)|98
 30-130

 DECACHLOROBIPHENYL
 (84)|111
 30-130

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column () included the reported column

^{*} Out side of QC Limit



=======================================	
Client : TETRA TECH FW, INC.	Date Collected: 11/10/04
Project : MFA, SITE 1, CTO 86	Date Received: 11/11/04
Batch No. : 04K099	Date Extracted: 11/16/04 19:00
Sample ID: 86-S1-066	Date Analyzed: 11/18/04 12:27
Lab Samp ID: K099-05R	Dilution Factor: .94
Lab File ID: SK?7050A	Matrix : WATER
Ext Btch ID: CPK014W	% Moisture : NA
Calib. Ref.: SK17038A	Instrument ID : GCT008
=======================================	

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L) T	(ug/L)
PCB-1016	(ND) (ND)	.94	.24 .24
PCB-1221	(ND) ND	.94	24 . 24
PCB-1232	(ND) ND	.94	24 . 24
PCB-1242	(ND) ND	.94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) [ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(80) 92	30-130	
DECACHLOROBIPHENYL	(82) 107	30-130	

RL: Reporting Limit
Left of | is related to first column ; Right of | related to second column
() included the reported column
* Out side of QC Limit



: TETRA TECH FW, INC. Date Collected: 11/10/04 Date Received: 11/11/04 Client Project : MFA, SITE 1, CTO 86
Batch No. : 04K099
Sample ID: 86-S1-067
Lab Samp ID: K099-06R Date Extracted: 11/16/04 19:00 Date Analyzed: 11/18/04 12:52 Dilution Factor: .94 Lab File ID: SK17051A Matrix : WATER

% Moisture Ext 8tch ID: CPK014W : NA Calib. Ref.: SK17038A Instrument ID : GCT008

	RESULTS	RL_	MDL
PARAMETERS	(ug/L)	(ug/L) ((ug/L)
		•••••	
PCB-1016	(ND) ND	. 94 .	.24 .24
PCB-1221	(ND) ND	.94	.24 .24
PCB-1232	(ND) ND	.94	.24 .24
PCB-1242	(ND) ND	.94 .	.24
PCB-1248	(DN) (DN)	.94 .	.24 .24
PCB-1254	(ND) (ND)	.94	.24
PCB-1260	ON CON)	.94 .	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(84) 95	30-130	
DECACHLOROB I PHENYL	(82) 106	30-130	

RL: Reporting Limit Left of [is related to first column ; Right of [related to second column () included the reported column

^{*} Out side of QC Limit



sw3520C/8082 PCBs

Client : TETRA TECH FW, INC. Date Collected: 11/10/04 Project : MFA, SITE 1, CTO 86 Batch No. : 04K099 Project Date Received: 11/11/04 - Date Extracted: 11/16/04 19:00 Sample ID: 86-\$1-068 Lab Samp ID: K099-07R Date Analyzed: 11/18/04 13:18 Dilution Factor: .94 Lab File ID: SK17052A Ext Btch ID: CPK014W : WATER Matrix % Moisture : NA Instrument ID : GCT008 Calib. Ref.: SK17038A

	RESULTS	RL	MDL
PARAMETERS	(ug/L)	(ug/L)	(ug/L)
PCB-1016	(ND) ND	.94	.24 .24
PCB-1221	(ND) ND	.94	-24 -24
PCB-1232	(ND) ND	-94	.24 .24
PCB-1242	(ND) ND	. 94	.24 .24
PCB-1248	(ND) ND	.94	.24 .24
PCB-1254	(ND) ND	.94	.24 .24
PCB-1260	(ND) ND	.94	.24 .24
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
TETRACHLORO-M-XYLENE	(71) 82	30-130	
DECACHLOROBIPHENYL	(81) 106	30-130	

RL: Reporting Limit

Left of | is related to first column ; Right of | related to second column () included the reported column

^{*} Out side of QC Limit



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04K099

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Six (6) water samples were received on 11/11/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample K099-07 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample K099-07 was spiked. Recoveries were out of the QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

All samples were analyzed at DF 20 due to matrix interference of high salt leve.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

itch No. : 04k	Batch No. : 04K099	11 11 12 13 14 14 14 14 14 14 14 14 14 14 14 14 14	 				## ## ## ## ## ## ## ## ## ## ## ## ##			1081	instrument in	11047
	FMAX	RESULTS		R	MD	Analysis	Extraction				Collection	Received
SAMPLE 1D	SAMPLE ID	(1/6n)	DLF MOIST	/6n)	(ng/L)	DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME
,	1 1 1 1	â	1 1 1 1 1		1 2 4 1	1 1 1 1 1 1		¿	:			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
LK1W	HGK016WB	QN		4 .2	Ξ.	11/18/0416:07	11/17/0416:00 M	M47K019010	M47K019008	HGK016W	NA AN	. 11/17/04
STW	HGK016WL	76.96	~	. Z	Ψ,	11/18/0416:09	11/17/0416:00 P	M47K019011	M47K019008	HGK016W	NA A	11/17/0
014	HGK016WC	76.7	-	4A .2	Ψ.	11/18/0416:11	11/17/0416:00 P	M47K019012	M47K019008	HGK016W	NA	11/17/0/
86-S1-068AS	K099-07A	35.4	2	4A 4V	2	11/18/0416:56	11/17/0416:00 P	447K019032	M47K019030	HGK016W	11/10/04	11/11/04
-s1-068	K099-07	문	20 N	4 4	~	11/18/0416:58	11/17/0416:00 P	M47K019033	M47K019030	HGK016W	11/10/04	11/11/0/
-S1-0680L	K099-07T	읒	100	NA 20	2	11/18/0417:01	11/17/0416:00 P	M47K019034	M47K019030	HGK016W	11/10/04	11/11/0/
-S1-068MS	K099-07M	3.34	20	4A 4	N	11/18/0417:03	11/17/0416:00 P	M47K019035	M47K019030	HGK016W	11/10/04	11/11/0/
-S1-068MSD	K099-07S	3.6	20	NA 4	2	11/18/0417:05	11/17/0416:00 M47K019036	147K019036	M47K019030	HGK016W	11/10/04	11/11/0
\$1-063	K099-02	S	50	AA 4	2	11/18/0417:07	11/17/0416:00 h	M47K019037	M47K019030	HGK016W	11/09/04	11/11/0/
-51-064	K099-03	2	S0 N	4 A 44	2	11/18/0417:09	11/17/0416:00 P	M47K019038	M47K019030	HGK016W	11/09/04	11/11/0/
-81-065	K099-04	2	S0 N	4 Y	~	11/18/0417:12	11/17/0416:00 P	M47K019039	M47K019030	HGK016W	11/10/04	11/11/07
-51-066	K099-05	₽	S0 N	A 4	~	11/18/0417:14	11/17/0416:00 8	M47K019040	M47K019030	HGK016W	11/10/04	11/11/0/
790-18-	K000-06	9	20	7 91	·	11/18/0/17-14	11/17/0/14:00	M/7V0100/4	02/01/01/20	0000140	11/10/0/	44.44.0

RL: Reporting Limit

Revised Report 7003

COLUMBIA ANALYTICAL SERVICES, INC.

Client:

EMAX Laboratories, Inc.

Service Request No.:

K2409069

Project:

04K099

Date Received:

11/13/04

Sample Matrix:

Water

CASE NARRATIVE

All analyses were performed consistent with the quality assurance program of Columbia Analytical Services, Inc. (CAS). This report contains analytical results for samples designated for Tier III validation deliverables including summary forms and all of the associated raw data for each of the analyses. When appropriate to the method, method blank results have been reported with each analytical test.

Sample Receipt

Six water samples were received for analysis at Columbia Analytical Services on 11/13/04. No discrepancies were noted upon initial sample inspection. The samples were received in good condition and consistent with the accompanying chain of custody form. The samples were stored in a refrigerator at 4°C upon receipt at the laboratory.

Metals

Sample Notes and Discussion:

Due to the high salinity of sample matrix, all samples required pre-treatment using reductive precipitation prior to analysis by ICP/MS EPA 200.8. Analysis of Selenium was performed by hydride EPA 7742 due to the saline sample matrix.

Matrix Spike Recovery Exceptions:

The matrix spike recovery of Chromium for sample 86-S1-068 was outside control criteria. Recovery in the Laboratory Control Sample (LCS) was acceptable, which indicates the analytical batch was in control. The matrix spike outlier suggests a potential low bias in this matrix. No further corrective action was appropriate.

The matrix spike recovery of Cobalt for sample 86-S1-068 was outside the CAS control criteria as a result of the variability in the sample results. Variability between replicates was sufficient to bias the percent recoveries outside normal CAS control criteria. The associated QA/QC results (e.g. control sample, calibration standards, etc.) indicate the analysis was in control. Due to sample volume limitations no further corrective action was possible.

The control criterion for matrix spike recovery of Nickel for sample 86-S1-068 is not applicable. The analyte concentration in the sample was significantly higher than the added spike concentration, preventing accurate evaluation of the spike recovery.

Relative Percent Difference Exceptions:

The Relative Percent Difference (RPD) for the replicate analysis of Cobalt in sample 86-S1-068 was outside the normal CAS control limits. Additional analysis of the associated field samples could not be performed because insufficient sample remained for testing. No further corrective action was possible. The data is flagged to indicate the problem.

No other anomalies associated with the analysis of these samples were observed.

Approved by Ami App

_Date__//0///____

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409069

Project No.: 04K099

Γ

Date Collected: 11/09/04

Project Name: NA

_ . _ . .

Date Received: 11/13/04

Matrix:

WATER

Units: µg/L

Basis: , NA

Sample Name: 86-S1-063

•

Lab Code: K2409069-001 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	ω Ω
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	U	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	2.200		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	1.74		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	481		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.005	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0,003	บ	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.64		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	0.727		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.11		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.009	В	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	4.04		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	ט	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.007	B	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	Ū	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	0.79		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409069

Project No.: 04K099

K099

Date Collected: 11/09/04

Project Name: NA

Date Received: 11/13/04

Matrix:

WATER

Units: µg/L

Basis: .NA

Sample Name: 86-S1-064

Lab Code: K2409069-002 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	Ū	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	2.810		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	1.79		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	477		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.004	₿	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.003	ט	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.62		И
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	1.150		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.15		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.009	Ū	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	4.08		[
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	U	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	В	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	Ū	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	0.50	В	

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409069

Project No.: 04K099

Date Collected: 11/10/04

Project Name: NA

1/3/05

12/29/04

Date Received: 11/13/04

Matrix:

Units: µg/L

Basis: •NA

WATER

Lab Code: K2409069-003 DISS

4.92

Sample Name: 86-S1-065

200.8

0.50

0.02

			ī						
Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	c	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	υ	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	3.400		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	3.81		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	149		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.004	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.003	Ū	1
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.73		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	0.775		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.14		ĺ
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.143]
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	4.24		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	Ū	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	σ	1
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	U	

% Solids: 0.0

Comments:

Zinc

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409069

Project No.: 04K099

Date Collected: 11/10/04

Date Received: 11/13/04

Project Name: NA

Matrix:

WATER

Units: µg/L

Basis: 'NA

Sample Name: 86-S1-066

Lab Code: K2409069-004 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	C	Õ
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	ΰ	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	3.650		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	3.88		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	141		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.008	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.003	ָט	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.63		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	1.280		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.16		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.009	ט	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	4.10		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	ט	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	ט	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	ט	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	3.20		

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

EMAX Laboratories, Inc.

Service Request: K2409069

Project No.: 04K099

Date Collected: 11/10/04

Project Name: NA

Date Received: 11/13/04

WATER

Units: µg/L

Basis: • NA

Sample Name: 86-S1-067

Lab Code: K2409069-005 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	Ū	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	2.720		<u> </u>
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	11.5		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	250		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.015	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.005	В	<u> </u>
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	1.65		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	1.980		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.17		
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.021		
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	10.2		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	[
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	ט	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.002	В	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	บ	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	2.22		1

% Solids: 0.0

-1-

INORGANIC ANALYSIS DATA SHEET

Client:

Matrix:

EMAX Laboratories, Inc.

Service Request: K2409069

Project No.: 04K099

Date Collected: 11/10/04

Date Received: 11/13/04

Project Name: NA

WATER

Units: µg/L

Basis: 'NA

Sample Name: 86-S1-068

Lab Code: K2409069-006 DISS

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50·	50	1	12/9/04	12/12/04	50	U	ĺ
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	1.640		
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	4.91		
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	417		
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.009	В	
Cadmium	200.8	0.020	0.003	1	12/29/04	1/3/05	0.006	В	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.63		N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	5.930		*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.17	1	1
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.009	ט	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	11.7		
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	Ū	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	ט	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	ט	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	Ū	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	0.42	В	

% Solids: 0.0

INORGANIC ANALYSIS DATA SHEET

Client:

EMAX Laboratories, Inc.

Service Request: K2409069

Project No.: 04K099

Date Collected: NA

Project Name: NA

Date Received: NA

Matrix:

WATER

Units: µg/L

Basis: 'NA

Sample Name: Method Blank

Lab Code: K2409069-MB

Analyte	Analysis Method	MRL	MDL	Dil.	Date Extracted	Date Analyzed	Result	С	Q
Aluminum	6010B	50	50	1	12/9/04	12/12/04	50	U	
Antimony	200.8	1.000	0.120	1	12/9/04	12/13/04	0.316	В	
Arsenic	200.8	0.50	0.02	1	12/29/04	1/3/05	0.02	υ	
Barium	200.8	1.000	0.600	1	12/9/04	12/13/04	0.600	Ū	
Beryllium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	ט	
Cadmium	200.8	0.020	0.003	1.	12/29/04	1/3/05	0.003	Ū	
Chromium	200.8	0.20	0.04	1	12/29/04	1/3/05	0.04	ŭ	N
Cobalt	200.8	0.020	0.002	1	12/29/04	1/3/05	0.002	ש	*N
Copper	200.8	0.10	0.01	1	12/29/04	1/3/05	0.01	U	
Lead	200.8	0.020	0.009	1	12/29/04	1/3/05	0.009	ט	
Nickel	200.8	0.20	0.02	1	12/29/04	1/3/05	0.02	ซ	
Selenium	7742	1.0	0.3	2	12/9/04	1/6/05	0.3	ט	
Silver	200.8	0.020	0.005	1	12/29/04	1/3/05	0.005	Ū	
Thallium	200.8	0.020	0.001	1	12/29/04	1/3/05	0.001	ט	
Vanadium	6010B	10.0	6.0	1	12/9/04	12/12/04	6.0	บ	
Zinc	200.8	0.50	0.02	1	12/29/04	1/3/05	0.02	U	

% Solids: 0.0

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Air Field, Site 1, CTO 86

Collection Date:

November 9 through November 10, 2004 ·

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Metals

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc. & Columbia Analytical

Services, Inc.

Sample Delivery Group (SDG): 04K099/K2409069

Sample Identification

86-S1-063

86-S1-064**

86-S1-065

86-S1-066**

86-S1-067

86-S1-068

86-S1-068MS

86-S1-068DUP

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Methods 6010B and 7000 and EPA Method 200.8 for Metals. The metals analyzed were Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Nickel, Selenium, Silver, Thallium, Vanadium, and Zinc.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the methods stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks with the following exceptions:

Method Blank ID	Analyte	Maximum Concentration	Associated Samples
PB (prep blank)	Antimony	0.316 ug/L	All samples in SDG 04K099/K2409069
ICB/CCB	Antimony Nickel Selenium Vanadium	0.038 ug/L 0.31 ug/L 0.16 ug/L 7.2 ug/L	All samples in SDG 04K099/K2409069

Sample concentrations were compared to the maximum contaminant concentrations detected in the ICB/CCB/PBs. The sample concentrations were either not detected or were significantly greater (>5X blank contaminants) than the concentrations found in the associated method blanks with the following exceptions:

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-S1-063	Antimony	2.200 ug/L	2.200U ug/L
86-S1-064**	Antimony	2.810 ug/L	2.810U ug/L
86-S1-065	Antimony	3,400 ug/L	3.400U ug/L

Sample	Analyte	Reported Concentration	Modified Final Concentration
86-S1-066**	Antimony	3.650 ug/L	3.650U ug/L
86-S1-067	Antimony -	2.720 ug/L	2.720U ug/L
86-\$1-068	Antimony	1.640 ug/L	1.640U ug/L

IV. ICP Interference Check Sample (ICS) Analysis

The frequency of analysis was met.

The criteria for analysis were met.

V. Matrix Spike Analysis

Matrix spike (MS) analyses were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	%R (Limits)	Flag	A or P
86-S1-068MS (All samples in SDG 04K099/K2409069)	Arsenic Beryllium Chromium Copper Zinc	43 (75-125) 59 (75-125) 45 (75-125) 72 (75-125) 49 (75-125)	J (all detects) UJ (all non-detects)	A A
86-S1-068MS (All samples in SDG 04K099/K2409069)	Cobalt	150 (75-125)	J (all detects)	Α

VI. Duplicate Sample Analysis

Duplicate (DUP) sample analyses were reviewed for each matrix as applicable. Results were within QC limits with the following exceptions:

DUP ID (Associated Samples)	Analyte	RPD (Limits)	Difference (Limits)	Flag	A or P
86-S1-068DUP (All samples in SDG 04K099/K2409069)	Cobalt	79 (≤30)	-	J (all detects) UJ (all non-detects)	А

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

VIII. Internal Standards

All internal standard percent recoveries (%R) were within QC limits for samples on which a EPA Level IV review was performed with the following exceptions:

Sample	internal Standard	%R (Limits)	Analyte	Flag	AorP
86-S1-064** (digested 12/13/04)	Indium-115	153.6 (60-125)	Antimony Barium	J (all detects) J (all detects)	A
86-S1-064** (digested 1/3/05)	Nickel-61 Indium-115	363.9 (60-125) 133.5 (60-125)	Nickel Arsenic Barium Cadmium Chromium Cobalt Silver Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A
86-S1-066** (digested 12/13/04)	Indium-115	151.5 (60-125)	Antimony Barium	J (all detects) J (all detects)	Α
86-S1-066** (digested 1/3/05)	Lithium-6 Scandium-45 Nickel-61 Indium-115 Lutetium-175	138.3 (60-125) 130.9 (60-125) 234.5 (60-125) 141.5 (60-125) 128.1 (60-125)	Arsenic Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	. А

Raw data were not evaluated for the samples reviewed by Level III criteria.

IX. Furnace Atomic Absorption QC

All graphite furnace atomic absorption QC were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

X. ICP Serial Dilution

Although ICP serial dilution analysis was not required by the method, it was performed by the laboratory. The analysis criteria were met.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-063 and 86-S1-064** and samples 86-S1-065 and 86-S1-066** were identified as field duplicates. No metals were detected in any of the samples with the following exceptions:

	Concentra	Concentration (ug/L)	
Compound	86-S1-063	86-S1-064**	RPD
Antimony	2.200	2.810	24
Arsenic	1.74	1.79	3
Barium	481	477	1
Beryllium	0,005	0.004	22
Chromium	0.64	0.62	3
Cobalt	0.727	1.150	45
Copper	0.11	0.15	31
Lead	0.009	Ue00,0	Not calculable
Nickel	4.04	4.08	1
Thallium	0.007	0.001	150
Zinc	0.79	0.50	45

	Concentra	ition (ug/L)		
- Compound	86-S1-065	86-\$1-066**	RPD	
Antimony	3.400	3.650	7	
Arsenic	3.81	3.88	2	
Barium	149	141	6*	
Beryllium	0.004	0.008	67	
Chromium	0.73	0.63	15	
Cobalt	0,775	1.280	49	
Copper	0.14	0.16	13	
Lead	0.143	0.009U	Not calculable	
Nickel	4.24	4.10	3	
Zine	4.92	3.20	42	

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Air Field, Site 1, CTO 86 Metals - Data Qualification Summary - SDG 04K099/K2409069

SDG	Sample	Analyte	Flag	A or P	Reason
04K099/ K2409069	86-S1-063 86-S1-064** 86-S1-065 86-S1-066** 86-S1-067 86-S1-068	Arsenic Beryllium Chromium Copper Zinc	J (all detects) UJ (all non-detects)	A	Matrix spike analysis (%R)
04K099/ K2409069	86-S1-063 86-S1-064** 86-S1-065 86-S1-066** 86-S1-067 86-S1-068	Cobalt	J (all detects)	A	Matrix spike analysis (%R)
04K099/ K2409069	86-S1-063 86-S1-064** 86-S1-065 86-S1-066** 86-S1-067 86-S1-068	Cobalt	J (all detects) UJ (all non-detects)	A	Duplicate sample analysis (RPD)
04K099/ K2409069	86-S1-064**	Antimony Barium Nickel Arsenic Cadmium Chromium Cobalt Silver	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Internal standards (%R)
04K099/ K2409069	86-S1-066**	Antimony Barium Arsenic Beryllium Cadmium Chromium Cobalt Copper Lead Nickel Silver Thallium Zinc	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	Α	internal standards (%R)

Moffett Air Field, Site 1, CTO 86 Metals - Laboratory Blank Data Qualification Summary - SDG 04K099/K2409069

SDG	Sample	Analyte	Modified Final Concentration	A or P
04K099/ K2409069	86-S1-063	Antimony	2.200U ug/L	A
04K099/ K2409069	86-S1-064**	Antimony	2.810U ug/L	Α
04K099/ K2409069	86-S1-065	Antimony	3.400U ug/L	А
04K099/ K2409069	86-S1-066**	Antimony	3.650U ug/L	А
04K099/ K2409069	86-S1-067	Antimony	2.720U ug/L	Α
04K099/ K2409069	86-S1-068	Antimony	1.640U ug/L	A

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 85

Collection Date:

November 9 through November 10, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Volatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K099

Sample Identification

86-S1-070

86-S1-063

86-S1-064**

86-S1-065

86-S1-066**

86-S1-067

86-S1-068

86-S1-068MS

86-S1-068MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 9 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8260B for Volatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
10/15/04	Carbon disulfide	24.2	All samples in SDG 04K099	J (all detects) UJ (all non-detects)	Α
	Hexachlorobutadiene	21.4		J (all detects) UJ (all non-detects)	

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No volatile contaminants were found in the method blanks with the following exceptions:

Method Blank ID	Analysis Date	Compound TIC (RT in minutes)	Concentration	Associated Samples
MBLK1W	11/20/04	Acetone	3.3 ug/L	All samples in SDG 04K099

Sample concentrations were compared to concentrations detected in the method blanks. The sample concentrations were either not detected or were significantly greater (>10X for common contaminants, >5X for other contaminants) than the concentrations found in the associated method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-063 and 86-S1-064** and samples 86-S1-065 and 86-S1-066** were identified as field duplicates. No volatiles were detected in any of the samples with the following exceptions:

	Concentration (ug/L)		
Compound	86-S1-063	86-S1-064**	RPD
Carbon disulfide	0.5U	0.23	Not calculable

	Concentra	ation (ug/L)	
Compound	86-S1-065	86-S1-066**	RPD
Carbon disulfide	0.5U	0.23	Not calculable

XVII. Field Blanks

Sample 86-S1-070 was identified as a trip blank. No volatile contaminants were found in this blank.

Moffett Airfield, MFA, Site 1, CTO 85 Volatiles - Data Qualification Summary - SDG 04K099

SDG	Sample	Compound	Flag	A or P	Reason
04K099	86-S1-070 86-S1-063 86-S1-064** 86-S1-065 86-S1-066** 86-S1-067 86-S1-068	Carbon disulfide Hexachlorobutadiene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D)

Moffett Airfield, MFA, Site 1, CTO 85 Volatiles - Laboratory Blank Data Qualification Summary - SDG 04K099

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 85

Collection Date:

November 9 through November 10, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K099

Sample Identification

86-S1-063

86-S1-064**

86-S1-065

86-S1-066**

86-S1-067

86-S1-068

86-S1-068MS

86-S1-068MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
12/2/04	Hexachlorocyclopentadiene	23.8	All samples in SDG 04K099	J (all detects) UJ (all non-detects)	Α

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-063 and 86-S1-064** and samples 86-S1-065 and 86-S1-066** were identified as field duplicates. No semivolatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA, Site 1, CTO 85 Semivolatiles - Data Qualification Summary - SDG 04K099

SDG	Sample	_ Compound	Flag	A or P	Reason
04K099	86-S1-063 86-S1-064** 86-S1-065 86-S1-066** 86-S1-067 86-S1-068	Hexachlorocyclopentadiene	J (all detects) UJ (all non-detects)	А	Continuing calibration (ICV %D)

Moffett Airfield, MFA, Site 1, CTO 85 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04K099

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 86

Collection Date:

November 9 through November 10, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Chlorinated Pesticides

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K099

Sample Identification

86-S1-063

86-S1-064**

86-S1-065

86-S1-066**

86-S1-067

86-S1-068

86-S1-068MS

86-S1-068MSD

^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8081A for Chlorinated Pesticides.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance was acceptable unless noted otherwise under initial calibration and continuing calibration sections.

III. Initial Calibration

Initial calibration of single and multicomponent compounds was performed for the primary (quantitation) column and confirmation column as required by this method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

The individual 4,4'-DDT and Endrin breakdowns were less than 15.0%.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No chlorinated pesticide contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-068MS/MSD (86-S1-068)	Aldrin	148 (47-125)	-	-	J (all detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 86-S1-063 and 86-S1-064** and samples 86-S1-065 and 86-S1-066** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA, Site 1, CTO 86 Chlorinated Pesticides - Data Qualification Summary - SDG 04K099

SDG	Sample	Compound	Flag	A or P	Reason
04K099	86-S1-068	Aldrin	J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Airfield, MFA, Site 1, CTO 86 ... Chlorinated Pesticides - Laboratory Blank Data Qualification Summary - SDG 04K099

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, MFA, Site 1, CTO 86

Collection Date:

November 9 through November 10, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Polychlorinated Biphenyls

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K099

Sample Identification

86-S1-063

86-S1-064**

86-S1-065

86-S1-066**

86-S1-067

86-S1-068

86-S1-068MS

86-S1-068MSD

^{**}Indicates sample underwent EPA Level IV review.

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8082 for Polychlorinated Biphenyls.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XIV.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/ECD Instrument Performance Check

Instrument performance data were not provided and therefore not reviewed.

III. Initial Calibration

Initial calibration of multicomponent compounds was performed for the primary (quantitation) column as required by the method.

The percent relative standard deviations (%RSD) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

IV. Continuing Calibration

Continuing calibration was performed at required frequencies.

The percent differences (%D) of calibration factors in continuing standard mixtures were within the 15.0% QC limits.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

Retention time windows were evaluated and considered technically acceptable for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples on which a Level III review was performed.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No polychlorinated biphenyl contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Pesticide Cleanup Checks

a. Florisil Cartridge Check

Florisil cleanup was not required and therefore not performed in this SDG.

b. GPC Calibration

GPC cleanup was not required and therefore not performed in this SDG.

XI. Target Compound Identification

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and Reported CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Overall Assessment of Data

Data flags are summarized at the end of this report.

XIV. Field Duplicates

Samples 86-S1-063 and 86-S1-064** and samples 86-S1-065 and 86-S1-066** were identified as field duplicates. No polychlorinated biphenyls were detected in any of the samples.

XV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, MFA, Site 1, CTO 86 Polychlorinated Biphenyls - Data Qualification Summary - SDG 04K099

No Sample Data Qualified in this SDG

Moffett Airfield, MFA, Site 1, CTO 86 Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 04K099

No Sample Data-Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

ORIGINAL

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

November 9 through November 10, 2004

LDC Report Date:

January 11, 2005

Matrix:

Water

Parameters:

Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04K099

Sample Identification

86-S1-063

86-S1-064**

86-S1-065

86-S1-066**

86-S1-067

86-S1-068

86-S1-068MS

86-S1-068MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 8 water samples listed on the cover sheet including dilutions5and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Analyte	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-068MS/MSD (All samples in SDG 04K099)	Mercury	67 (75-125)	72 (75-125)	<u>-</u>	J (all detects) UJ (all non-detects)	A

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-063 and 86-S1-064** and samples 86-S1-065 and 86-S1-066** were identified as field duplicates. No mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Mercury - Data Qualification Summary - SDG 04K099

SDG	Sample	_ Analyte		Flag	A or P	Reason
04K099	86-S1-063 86-S1-064** 86-S1-065 86-S1-066** 86-S1-067 86-S1-068	Mercury	.	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

Moffett Airfield, Site 1, CTO 86 Mercury - Laboratory Blank Data Qualification Summary - SDG 04K099

No Sample Data Qualified in this SDG





NUMBER 05318

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	PURCHASE ORDER NO.	ANALYSES DECLIDED	LABORATORY NAME	
SITE / BASELINE	20848 TASK 28	ANALYSES REQUIRED	1	Project Information
MOFFETT F.A.	1990.086E		EMAX	Section
SAMPLED NAME	SAMPLED SIGNATURE	The second secon		Do not submit to
BILL OGLE	Suya		LABORATORY,ID (FOR LABORATORY)	Laboratory
PROBET CONTACT LISA 1318 N KOWSKI	AIRBILI NUMBER 8 4 7 8 8 2 7 3 8 7 3 7	2005 2005 2006 2006 2006 2006 2006 2006		
SAMPLE ID DATE COLLECTED	TIME NO. OF LEVEL T T A A CONTAINER 3 4 F T	1 66 7 K	COMMENTS D4 G1024	LOCATION DEPTH QC
86-51-029 7/6/04	1040 3 X W DA		0 6:00 1	WI-16 REG
86-51-028 7/6/04				W1-24 PZ6
86-51-027 76/04		<u> </u>		W1-8 REG
86-51-026 7/6/04				W1-5 R26
86-SI-025 76/04		<u> </u>		WI-ZZ - %
86-S1-024 7/6/04	1500 3 X W 64)			WI-IZR EG
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RELINGUISTED, BY (Signatoric) DATE / 6.4	RECEIVED BY (Signature)	TORY INSTRUCTIONS/COMMENTS	EN EHER	SAMPLING COMMENT:
COMPANY FULL 1300	COMPANY DI	solved Hercury Samples are	THE THEICH	R2/04
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1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

05319 NUMBER

CHAIN-OF-CUSTODY RECORD

PROJECT NAME		PURCHASE ORDI					7	1/1	NAN	ALY	SES	RE	OUT	RED			LABORATORY NAME				į			
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1835 W. 205th Street Torrance, CA-90501

> Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 07-22-2004

EMAX Batch No.: 04G024

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 07/08/04. The data reported include:

Sample ID	Control #	Col Date	Matrix	Analysis
86-S1-029	G024-01	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-028	G024-02	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86 - \$1-027	G024-03	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-026	G024-04	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-025	G024-05	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-024	G024-06	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-023	G024-07	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-s1-022	G024-08	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-020	G024-09	07/07/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-S1-019	G024-10	07/07/04	WATER	SEMIVOLATILE ORGANICS BY GCMS

Sample ID	Control #	Col Date	Matrix	Analysis
				MERCURY DISSOLVED
86-S1-018	G024-11	07/07/04	WATER	SEMIVOLATILE ORGANICS BY GCMS
86-s1-017	G024-12	07/07/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
80-31 017	GOLT IL	01701701		MERCURY DISSOLVED
86-S1-022MS	G024-08M	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED
86-\$1-022MSD	G024-08S	07/06/04	WATER	SEMIVOLATILE ORGANICS BY GCMS MERCURY DISSOLVED

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

C 2 Pu Kam Y. Pang, Ph.D. Laboratory Director

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04G024

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Twelve (12) water samples were received on 07/08/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample G024-08 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 3520C/8270C SEMI_VOLATILE_DRGANICS_BY_GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04G024 Sample ID: 86-51-029 Lab Samp ID: G024-01 Lab File ID: RSQN80 Ext Btch ID: SVG008W Calib. Ref.: RFX031	% Mois Instru	Collected: 07/C Received: 07/C Extracted: 07/Analyzed: 07/ Analyzed: 07/ On Factor: .94 WATI ture: NA	06/04 08/04 18/04 12/04 15:30 15/04 21:43 ER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-INITROPHENOL 2.4.5-INITROPHENOL 2.4.5-INITROPHENOL 2.4.5-INITROPHENOL 2.4.5-INITROPHENOL 2.5.5-INITROTOLUENE 2.5.6-INITROTOLUENE 2.5.6-INITROTOLUENE 2.5.6-INITROPHENOL 2.5-INITROPHENOL 2.5-INITROPHENOL 2.5-INITROPHENOL 2.5-INITROANILINE 2.5-INITROANILINE 2.5-INITROANILINE 4.5-INITROANILINE 4.5-INITRO2.5-METHYLPHENOL 4.5-INITROANILINE 4.5-INITRO3.5-METHYLPHENOL 4.5-INITROPHENOL 4	T	R/1 -4444000444400444400444444444444444444	1) - 7777446777746777746777777777777777777
Pl: Reporting Limit	,		

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04G024 Sample ID: 86-\$1-028 Lab Samp ID: G024-02 Lab File ID: RSCN81 Ext Btch ID: SVG008W Calib. Ref:: RFX031	% Moi: Instr	ument ID : T	7/06/04 7/08/04 7/08/04 15:30 7/15/04 22:18 94 ATER A -042
	RESULTS (ug/L)	RL (ug/L) 9.4	MDL (ug/L)
PARAMETERS		9.4	
2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL	ND ND ND	9.4 9.4	4:7
2'4-DIMETHYLPHENOL 2'4-DINITROPHENOL	ND ND	914	4. / 9. 4
2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	ND ND	19	5.6
2-CHLORONAPHTHALENE 2-CHLOROPHENGL	ND ND ND	6:4	7.7 2.7
Z-METHYLPHENOL Z-METHYLPHENOL Z-NITROANIITME	ND ND	9-4 19	4.7 5. <u>6</u>
Z-NÍTŘOPHÉNOL 3.3'-DICHLOROBENZIDINE	ND ND	9-4 9-4	4:7
3-NITROANILINE 4,6-DINITRO-2-METHYLPHENOL	ND ND	19	9.4
4-BROMOPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL	ND ND ND ND	9:4 9:4	4.7
4-CHLOROPHENYL-PHENYL ETHER 4-METHYLPHENOL (1)	ND	9.4 2.4	4.7 4.7
4-NITROANILINE 4-NITROPHENOL	ND ND	19	4:7
ACENAPHTHENE ACENAPHTHYLENE	ND ND ND	ģ: <u>7</u>	4.7 4.7
AN I GRACENE BENZO(A)ANTHRACENE BENZO(A)AYRENE	ND ND ND	9.4 9.4	4.7 4.7
BENZO(B)FLUORANTHENE BENZO(K)FLUORANTHENE	ND ND	9:4 9:4	4:7
BENZO(G,H,I)PERYLENE BIS(2-CHLOROETHOXY)METHANE	ND ND	9.4	7:7 4:7
BIS(2-CHLOROETHYL)EINER BIS(2-CHLOROISOPROPYL)ETHER BIS(2-ETHY) HEYYI)PHTHAIATE	ND ND ND	6-7 19	4.7 9.4
BŮTÝLBENZÝLPHTHÁLATÉ CHRYSENE	ND ND	2.4 2.4	4:7
DI-N-BUTYLPHTHALATE DI-N-OCTYLPHTHALATE	ND ND ND	3:4 3:4	4:7 4:7
DIBENZOFURAN DIETHYLPHTHALATE	ND ND	19	4.7 5. <u>6</u>
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,5-TRICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLORONAPHTHALENE 2-CHLORONAPHTHALENE 2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-NITROANILINE 2-NITROANILINE 3,3-DICHLOROBENZIDINE 3,3-DICHLOROBENZIDINE 3,3-DICHLOROBENZIDINE 4-HONONICH ENTERPHYLPHENOL 4-EROMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-METHYLPHENOL 4-NITROANILINE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BIS(2-CHLOROTOROPROPYL)ETHER BIS(2-CHLOROTOROPROPYLOROTOROPROPYLOROTOROPROPYLOROTOROPROPYLOROTOROR	ND ND	44449994444994449944499444444444444444	77777467777767777467777777777777777777
FLUORENE HEXACHLOROBENZENE HEXACHLOROCYCLODENTADIENE	ND ND ND	, 19 9.4	5.6 4.7
HEXACHLOROETHANE THORNO(1.2.3-CD)PYRENE	ND ND	9.4 9.4	4.7 4. <u>7</u>
ISOPHORONE N-NITROSO-DI-N-PROPYLAMINE	ND ND	999999999999999999999999999999999999999	4:4
N-NITROSODIPHENYLAMINE (2) NITROBENZENE NEUTROBUSENENE	ND ND ND	9 4 19 19	4.7 9.4
PHENANTHRENE PHENANTHRENE PHENOL	ND ND	9.4 19 19 9.4	5.6 4.7
PYRENE 1,11-BIPHENYL	ND ND	9.4 9.4 9.4 9.4	4.7
AČETOPHENONE ATRAZINE	ND ND	19	9.4 4.7
PHENUL PYRENE 1 1 - BIPHENYL ACETOPHENONE ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE	ND ND ND	9.4 9.4 9.4	4:7
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
2.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	77 76 67 79 71 92	25-134 43-125 25-125 32-125 25-125 42-126	
2-FLUOROPHENOL NITROBENZENE-D5	67 79 71	经接	
	92	42-126	
D: - Departing Limit	,		

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenoi
(2): Cannot be separated from Diphenylamine

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 046024 Sample ID: 86-S1-027 Lab Samp ID: G024-03 Lab File ID: RGX082 Ext Btch ID: SVG008W Calib. Ref: RFX031	Date Date Date Date Diluti - Matrix % Mois Instru	Collected: 07/00 Received: 07/00 Extracted: 07/11 Analyzed: 07/11 on Factor: .94 (7/04 3/04 1/04 15:30 1/04 22:53
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
		RL) - 444499994444994444444444444444444444	4.7
2,4,6-TRICHLOROPHENOL 2,4-DICHLOROPHENOL	20 20 20 20 20	3:4 3:4	4:7
2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE	ND ND	19 19	2.4 2.4
2,6-DINITROTOLUENE 2-CHLORONAPHTHALENE	ND ND ND	9.4 8.4	4.7
2-CHLOROPHENOL 2-METHYLNAPHTHALENE 3-METHYLDHENOL	ND ND	6: 7 9:4	4.7 4.7
2-NITROANILINE 2-NITROPHENOL	ND ND ND	19 8-4	5.6 4.7
3,3'-DICHLOROBENZIDINE 3-NITROANILINE 3-NITROANILINE	ND ND ND	3:4 19	4.7 9.4
4,6-01NTRU-Z-METRICPIENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHIORO-3-METHYLPHENOL	ND ND ND	19 2.4	6.6 4. <u>7</u>
4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER	ND	9-4 2-4	4:7
4-METHYLPHENOL (1) 4-NITROANILINE 4-NITROANILINE	ND ND ND	3-7 19	7.7 4.7
ACENAPHTHENE ACENAPHTHYLENE	ND ND	9.4 9.4	4:7
ÄNTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE	ND ND ND	3.4	7:7
BENZO(A)FICENE BENZO(B)FLUORANTHENE BENZO(K)FLUORANTHENE	ND ND ND	9.4 9.4	4.7 4.7
BENZO(G, H, I)PERYLENE BIS(Z-CHLOROETHOXY)METHANE	ND ND ND	9-4	4.7
BIS(2-CHLORDE INYL): HER BIS(2-CHLORDISOPROPYL)ETHER BIS(2-ETHY) HEYY) NONTHALATE	ND ND	9-7 19	4.7 9. <u>4</u>
BÚTÝĽBĚŇZÝĽPŘTŘÁĽATE CHRYSENE	ND ND	9-4 8-4	4.7
2-4,5-TRICHLOROPHENOL 2-4-6-TRICHLOROPHENOL 2-4-DIMETHYLPHENOL 2-4-DIMITROTOLUENE 2-4-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-CHLOROMAPHTHALENE 2-MITROTOLUENE 2-MITROTOLUENE 2-MITROTOLUENE 2-MITROPHENOL 3-MITROTOLUENE 2-MITROPHENOL 2-MITROPHENOL 3-MITROPHENOL 3-MITROANILINE 4-CHLOROPHENOL 4-PROMOPHENYL-PHENVL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENVL ETHER 4-CHLOROPHENYL-PHENVL ETHER 4-CHLOROPHENYL-PHENVL ETHER 4-METHYLPHENOL (1) 4-MITROANILINE 4-MITROPHENOL (1) 4-MITROPHENOL ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ANTHRACENE BENZO(A) PAYENE BENZO(A) PAYENE BENZO(A) PAYENE BENZO(A) PAYENE BENZO(A) PAYENE BENZO(A) PAYENE BENZO(A) PAYENE BENZO(B) FLUORANTHENE BENZO(A) PAYENE BENZO(B) FLUORANTHENE BENZO(C) H.) PERYLENE BIS(2-CHLOROISOPROPYL) ETHER BIS(2-CHLOROI	ND ND ND	3 4	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
DIBENZOFURAN DIETHYLPHTHALATE	ND ND	9.4 19 19	4.7 5.6
DIMETHYLPHTHALATE FLUORANTHENE	ND ND ND	9.4	4.7 4.7
HEXACHLOROBENZENE HEXACHLOROCYCLOPENTADIENE	ND ND	19 9.4	5. <u>6</u> 4.7
HEXACHLOROETHANE INDENU(1,2,3-CD)PYRENE	ND ND ND	8-4 8-4	4.7 4.7
N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DIPHENYLAMINE N-NITROSODIPHENYLAMINE (2)	ND ND	9.44 99.44 99.44 99.99 19.49	4.7 4.7
NITROBENZENE PENTACHLOROPHENOL	ND ND ND	9 15 18	9.4 5.6
PHENANIHKENE PHENOL DYDENE	ND ND	9.4	4.7 4.7
1 11-BIPHENYL ACETOPHENONE	ND ND	3-4 15	2.3
PHENUL PYRENE 1.1-BIPHENYL ACETOPHENONE ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE	ND ND ND	9-4 9-19 9-4 9-4	4.7
CARBAZOLE	ND ND		4.7
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT 25-134	
2-FLUOROBIPHENYL 2-FLUOROBIPHENYL 2-FLUOROPHENOL	74 67	43-125 25-125	
2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	81 74 67 78 71 95	25-134 43-125 25-125 32-125 42-126	
TERPHENYL-D14 RL: Reporting Limit	•	75 160	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04G024 Sample ID: 86-S1-026 Lab Samp ID: G024-04 Lab File ID: RGX083 Ext Btch ID: SVG008W Calib. Ref.: RFX031	- Macija % Mois Instru	Collected: 07/06 Received: 07/06 Extracted: 07/12 Analyzed: 07/12 on Factor: .94 ture : NA ment ID : T-04	
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRITOTOLLENE 2.5-5-DINITROTOLLENE 2.5-CHLOROPHENOL 2.4-TRIVAPHTHALENE 2.4-TRIVAPHENOL 2.4-TRIVAPHENOL 2.4-TRIVAPHENOL 3.1-5-TLCHLOROBENZIDINE 3.1-TOLCHLOROBENZIDINE 3.1-TOLCHLOROBENZIDINE 3.1-TROANILINE 4.6-TRIGONALILINE 4.6-TRICANILINE 4.6-TRICANILINE 4.7-TROANILINE 4.	X 1	RL) 444400044440444004444004444444444444	L) - 7777744677777467777777777777777777777
HENOL-D5 ERPHENYL-D14 %: Reporting Limit (1): Cannot be separated from 3:Methyll		42-1 2 6	

?l: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Client : TERA EEH FW INC. Client : TERA EEH FW INC. Date Detected: 07.08/04 Date Received: 07	====up================================			15/04
PARAMETERS	Project - MEA SITE 1 CTO 86	Date	Received: 07/0	08/04
PARAMETERS	Batch No. : 04G024	Date	Extracted: 07/	12/04 15:30
PARAMETERS	Sample ID: 86-S1-025	pate Niluti	on Factor: 94	10/04 00:04
PARAMETERS	(Lab File ID: RGX084	Matrix	: WATE	R
PARAMETERS (1971) (1	Ext Btch ID: SVGQQ8W	% Mois	ture : NA	(2
PARAMETERS (1971) (1	Calib. Ref.: RFX031	10STFU		+ -
2.4.5 - TRI CHLOROPHENOL ND	**************************************		<u>.</u> .	115.1
2.4.5 - TRI CHLOROPHENOL ND	6484METERO	RESULTS	(ug/L)	MDL (ug/l)
2.4.5 - TRI CHLOROPHENOL ND	PARAMETERS		(49/1)	(03/07
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2,4,5-TRICHLOROPHENOL	ND	Z- /	4.7
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2,4,6-TRICHLOROPHENOL	עא מא	3:4	4:7
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2.4-DIMETHYLPHENOL	ÑĎ	9.4	4.7
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2,4-DINITROPHENOL	ND	18	8.4
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2,4-DINIIKOIOLUENE 2,4-DINIIROTOHIENE	ND	19	5 <u>:6</u>
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2-CHLORONAPHTHALENE	ND	9.4	4.7
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2-CHLOROPHENOL	ND	3-2	4.7
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2-METHYLPHENDL	ŇĎ	9.4	4.7
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2-NITROANILINE	ND	19 0 /	2.9
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	2-NITROPHENOL		9.4	4: ź
4.6-D1N1TRC) = MEINTY-EHRUL 4.6-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.5-BROMOPHENYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORO-3-MEITHYL-PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLLORONHILL PHENUL 4.7-CHLORONHILL PHENUL 4.7	3-NITROANILINE	ND	9,4	4-7
SURROGATE PARAMETERS	4,6-DINITRO-2-METHYLPHENOL	ND	19	6.6
SURROGATE PARAMETERS	4-BROMOPHENTL*PHENTL EINER	ND	9.4	4.7
SURROGATE PARAMETERS	4-CHLOROANILINE	ND	2-4	4.7
SURROGATE PARAMETERS	4-CHLOROPHENYL-PHENYL ETHER		3: 2	4.7
SURROGATE PARAMETERS	4-METROANITINE	ND	9 .4	4.7
SURROGATE PARAMETERS	4-NITROPHENOL	ND	.19 0 /	4.4
SURROGATE PARAMETERS	ACENAPHTHENE		<u> </u>	4:7
SURROGATE PARAMETERS	ANTHRACENE	ND	9.4	4.7
SURROGATE PARAMETERS	BENZO(A)ANTHRACENE		8.7	2.4
SURROGATE PARAMETERS	BENZU(A)PTRENE BENZO(B)FILIOPANTHENE	ND	9. 4	4.7
SURROGATE PARAMETERS	BENZO(K) FLUORANTHENE	ND	9.4	4-3
SURROGATE PARAMETERS	BENZO(G, H, I) PERYLENE	ND ND	ð:4	4:7
SURROGATE PARAMETERS	BIS(2-CHLOROFTHYL)ETHER	ŇĎ	<u>9.4</u>	4. <u>7</u>
SURROGATE PARAMETERS	BIS(2-CHLOROISOPROPYL)ETHER		9,4	4.8
SURROGATE PARAMETERS	BIS(2-ETHYLHEXYL)PHIHALAIL		9,4	4:7
SURROGATE PARAMETERS	CHRYSENE	ND	2.4	4.7,
SURROGATE PARAMETERS	DI-N-BUTYLPHTHALATE	ND ND	6. 2	4.7
SURROGATE PARAMETERS	DIBENZO(A.H)ANTHRACENE	ND:	9.4	4.7
SURROGATE PARAMETERS	DIBENZOFURAN	ND ND	944	\$. 6
SURROGATE PARAMETERS	DIETHYLPHIHALAIE NIMETHYLDHTHALATE	ND ND	iģ	4.7
SURROGATE PARAMETERS	FLUORANTHENE	ND	9.4	4.4
SURROGATE PARAMETERS	FLUORENE	ND ND	⁷ 19	5.6
SURROGATE PARAMETERS	HEXACHLOROCYCLOPENTAD I ENE	ND	2.4	4-7
SURROGATE PARAMETERS	HEXACHLOROETHANE	ND ND	6. 4	4:7
SURROGATE PARAMETERS	INDERUCT, 2, 3-LD /PTRENE	NĎ	9.4	4.7
SURROGATE PARAMETERS	N-NITROSO-DI-N-PROPYLAMINE	Ж	3.7	4-7
SURROGATE PARAMETERS	N-NITROSODIPHENYLAMINE (2)	ND ND	9. 4	4.7
SURROGATE PARAMETERS	PENTACHLOROPHENOL	ND	. 19	2.4
SURROGATE PARAMETERS	PHENANTHRENE	ND ND	9 4	4:7
SURROGATE PARAMETERS	OVERNE	ND	9.4	4.7
SURROGATE PARAMETERS	1,11-BIPHENYL	ND	8.4	5.4
SURROGATE PARAMETERS	ACETOPHENUNE ATRAZINE	ND	10	9.4
SURROGATE PARAMETERS	BENZALDEHYDE	ND	2.4	4-7
SURROGATE PARAMETERS	CAPROLACTAM	ND ND	۶۰ <u>۴</u>	4: /
2.44.6-TRIBROMOPHENOL 76 25-134 2FLUQROBIPHENYL 75 43-125 2FLUQROPHENOL 64 25-125 NITROBENZENE-D5 79 35-125 PHENOL-D5 69 25-125 TERPHENYL-D14 99 42-126	CARBAZULE			
2.44.6-TRIBROMOPHENOL 76 25-134 2FLUQROBIPHENYL 75 43-125 2FLUQROPHENOL 64 25-125 NITROBENZENE-D5 79 35-125 PHENOL-D5 69 25-125 TERPHENYL-D14 99 42-126	SURROGATE PARAMETERS	% RECOVERY		
,		76	25-134	
,	2-FLUOROBIPHENYL	75	43-125	
,	2-FLUOROPHENOL	94	经1号	
,	NIIKUBENZENE-UP	<u>6</u> 9	25-125	
RL: Reporting Limit	TERPHENYL-D14	99	42-126	
	RL: Reporting Limit			

RL: Reporting Limit (1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

Client : TEIRA TECH FW. INC. Project : MFA SITE 1, CTO 86 Batch No. : 04G024 Sample ID: 86-S1-024 Lab Samp ID: G024-06 Lab File ID: RSX085 Ext Btch ID: SVG008W Calib. Ref.: RFX031	Date Date Date Diluti - Matrix % Mois	ment ID : T-04	6/04 18/04 12/04 15:30 6/04 00:39 ER
PARAMETERS	RESULTS (ug/L)	RL) 9-4 9-4 9-4 19 19 19 9-4	MDL (ug/L)
2.4,5-TRICHLOROPHENOL 2.4,5-TRICHLOROPHENOL 2.4,5-TRICHLOROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-DINTROTOLUENE 2.5-LLORONAPHTHALENE 2.5-CHLOROPHENOL 2.METHYLNAPHTHALENE 2.METHYLNAPHTHALENE 2.NITROPHENOL 2.NITROPHENOL 3.31-DICHLOROBENZIDINE 3.51-DICHLOROBENZIDINE 3.51-DICHLOROBENZIDINE 3.51-DICHLOROBENZIDINE 3.51-DICHLOROBENZIDINE 3.51-DICHLOROBENZIDINE		9-4	
2'4'6-TRICHLOROPHENGL 2'4-DICHLOROPHENGL 3'4-DIMETRYLDHENGL	ND ND ND ND	3-7 9-4	7 7 4 7
2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROTOLUENE	ND ND	19 18	9.4 2.4
2.6-DINITROTOLUENE 2-CHLORONAPHTHALENE 3-CHLORONAPHTHALENE	ND ND ND	9.4 9.4 9.4	4.7 4.7
2-METHYLNAPHTHALENE 2-METHYLPHENOL	ND ND	3-4 19	4.7 4.7
2-NITROANILINE 2-NITROPHENOL 3-3-DICHLOROBENZIDINE	ND ND ND	9-4 9-4	4.7 4.7
3-NITROANILINE 4,6-DINITRO-2-METHYLPHENOL	ND ND ND	9,4 19	9:4 6:6
4-BROMOPHENYL-PHENTL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLOROANILINE	ND ND	9.4 2.4	4.7 4.7
4-CHLOROPHÉNYL-PHENYL ETHER 4-METHYLPHENOL (1)	ND ND ND	9.4 9.4 9.4 9.4	4.7
4-NITROPHENOL ACENAPHTHENE	ND ND	(19 9.4	4.7 4:7
ACENAPHTHYLENE ANTHRACENE BENJOCA ANTHRACENE	ND ND ND	9.4 9.4	4:7 4:7
BENZO(A)PYRENE BENZO(B)FLUCRANTHENE	ND ND	9.4 9.4	4.7 4.7
BENZO(K)FLUORANTHENE BENZO(G,H,I)PERYLENE BIS/2-CHIOROFTHOXY)METHANE	ND ND ND	3: 7 9:4	<u> </u>
BIS(2-CHLOROETHYL)ÉTHER BIS(2-CHLOROISOPROPYL)ETHER	ND ND ND	99999999999999999999999999999999999999	4.7
2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-NITROANILINE 3-NITROPHENOL 3-31-DICHLOROBENZIDINE 3-NITROANILINE 4-NITROANILINE 4-DINITRO-2-METHYLPHENOL 4-GENOMPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-MITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BISK2-CHLOROSTHYL)FITHER BISK2-CHLOROSTHYL)FITHER BISK2-CHLOROSTHYL)FITHER BISK2-ETHYLHEXYL)PHTHALATE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTHALATE DI-N-OCTYLPHTHALATE DI-N-OCTYLPHTHALATE DIENZO(A, HANTHRACENE DIBENZO(A,	ND ND	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7777746777776777774677777777777746777777
DI-N-BUTYLPHTHALATE DI-N-OCTYLPHTHALATE	ND ND ND	9-4 9-4 9-4 9-4 9-4	4:7
DIBENZOFURAN DIBENZOFURAN DIETHYLPHTHALATE	ND ND	914 19	4.7 5.6
DIMETHYLPHTHALATE FLUORANTHENE FLUORANTHENE	ND ND ND	9.4 9.4	7:7 4:7
HEXACHLOROBENZENE HEXACHLOROCYCLOPENTADIENE	ND ND	19 9.4	5.6 4.7 4.7
HEXACHLOROEIHANE INDENO(1,2,3-CD)PYRENE ISOPHORONE	ND ND ND	9.7 2.4	4.7 4.7
N-NITROSO-DI-N-PROPYLAMINE N-NITROSODIPHENYLAMINE (2)	ND ND ND	9 9999999 19944	4-7
NITROBENZENE PENTACHLOROPHENOL PHEMANTHRENE	ND ND	· 19	9.4 5.6
PHENOL PYRENE 1 PHENOL	ND ND ND	9.4 9.4 9.4 9.4	4.7
ACETOPHENONE ATRAZINE	ND ND	10	2.3 9.4 7.7
N-NITROSODIPHENTLAMINE (2) NITROBENZENE PENTACHLOROPHENOL PHENANTHRENE PHENOL PYRENE 1 1-BIPHENYL ACETOPHENONE ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE	ND ND ND	9.4 9.4 9.4	7:7 4:7
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL	71 68 61	25 - 134 43 - 125 25 - 125	
2,4,6-TRIBROMOPHENOL 2-FLUOROPHENOL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D14 TERPHENYL-D14	71 68 61 75 64 92	25-134 45-125 25-125 32-125 25-125 42-126	
TERPHENYL-D14 RL: Reporting Limit	,	42*120	

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04G024 Sample ID: 86-S1-023 Lab Samp ID: GD24-07 Lab File ID: RGX086 Ext Btch ID: SVG008W Calib. Ref: RFX031	Date Date Date Diluti - Matrix % Mois Instru	ment ID : T-O	08/04 08/04 12/04 15:30 16/04 01:14 ER
PARAMETERS	RESULTS: - NO DO DO DO DO DO DO DO DO DO DO DO DO DO	RL: 44449094449944499944449444444444444444	MV 4444005444544446677777777777777777777777
ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2.FLUGROBIPHENYL 2.FLUGROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Report be separated from 3-Methyle	ND ND ND ND % RECOVERY 82 73 65 79 70 101	9-4 9-4 QC LIMIT 25-1345 25-1255 25-1255 25-1255 25-1266	77 47 47

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 046024 Sample ID: 86-51-022 Lab Samp ID: G024-08 Lab File ID: RGX087 Ext Btch ID: SVG008W Calib. Ref.: RFX031	Date Date Date Date Diluti - Matrix % Mois Instru	Collected: 07/06 Received: 07/08 Extracted: 07/12 Analyzed: 07/16 on Factor: .95 (: WATER sture : NA ument ID : T-042	/04 /04 /04 /04 15:30 /04 01:49
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DIMITROTOLUENE 2,4-DIMITROTOLUENE 2,4-DIMITROTOLUENE 2,6-DIMITROTOLUENE 2,7-DIMITROTOLUENE 2,7-DIMITROSOLUENE 2,7-DIMITRO	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	### ##################################	L) - 88888557-88885-6888888888888888888888888
RL: Reporting Limit	, henol		

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 046024 Sample : D: 86-S1-020 Lab Samp ID: G024-09 Lab File ID: RGX090 Ext Btch ID: SYG008W Calib. Ref.: RFX031	Date Date Date Date Date Diluti Matrix Mois Instru	ment ID : T-04	77/04 18/04 18/04 12/04 15:30 6/04 03:34 ER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.5.5-TRICHLOROPHENOL 2.5.5-TRICHLOROPHENOL 2.5-TRICHLOROPHENOL	RL) 44449094444994444444444444444444444444	M/- 444499544445444964444444444444444444444	
PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	,	42-126	

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 046021-019 Lab Sample ID: 86-S1-019 Lab File ID: RGX091 Ext Btch ID: SVG008W Calib. Ref.: RFX031	% Mois Instru	ment ID : T-04 ==========	7/04 8/04 2/04 15:30 6/04 04:09 R
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,5-TRICHLOROPHENOL 2.4,5-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROTOLUENE 2.4-DINITROTOLUENE 2.5-DINITROTOLUENE 2.5-DINITROTOLUENE 2.5-CHLOROPHENOL 2.4-BINITROTOLUENE 2.5-CHLOROPHENOL 2.4-BINITROTOLUENE 2.5-MITROPHENOL 2.4-BINITROTOLUENE 2.5-MITROPHENOL 2.4-BINITROPHENOL 2.4-BINITROPHENOL 2.5-BINITROPHENOL 2.5-BINITROPHENOL 4.5-DINITRO-2-METHYLPHENOL 4.5-BONDOPHENYL-PHENYL ETHER 4.5-BINITROPHENOL 4.5-BONDOPHENYL-PHENYL ETHER 4.5-CHLOROPHENYL-PHENYL ETHER 4.5-MITROPHENOL 4.5-MITROP) 9) 99998999999999999999999999999999999	RL)-4444000-4444040-44440-9444444444444444	7-77-7-4467-77-7-467-77-7-7-7-7-7-7-7-7-
BENZALDEHYDE CAPROLACTAM CARBAZOLE	ND ND ND	9 4 9 4 9 4	7 . 7
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 PL Reporting Limit	% RECOVERY 67 65 57 69 61 85	QC LIMIT -25-134 43-125 -25-125 -25-125 -25-125 -42-126	

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04G045 Sample ID: 86-51-018 Lab Samp ID: G024-11W Lab File ID: RGX123 Ext Btch ID: SVG008W Calib. Ref.: RFX031		bollected: 07/07 Received: 07/08 Extracted: 07/18 Analyzed: 07/19 on Factor: 94 Ewarte	
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,0-DINITROPHENOL 2.4,0-DINITROPHENOL 2.4,0-DINITROPHENOL 2.4,0-DINITROPHENOL 2.4,0-DINITROPHENOL 2.6-DINITROPHENOL 2.6-DINITROPHENOL 2.METHYLPHENOL 2.MITROPHENOL 3.31,0-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE ESULTS	RL) - 4444000444494449044444444444444444444	M): -77774467777467777777777777777777777777	
Reporting Limit Substitute	henol		

(1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 046024 Sample ID: 86-51-017 Lab Samp ID: G024-12W Lab File ID: RSX124 Ext Btch ID: SVG008W Calib. Ref.: RFX031			
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 2,4-5-INITROPHENOL 4,5-5-INITROPHENOL 4,5-5-INITROPHENOL 4,5-5-INITROPHENOL 4,5-5-INITROPHENOL 4,5-5-INITROPHENOL 4,5-5-INITROPHENOL 4,6-5-INITROPHENOL 4,7-5-INITROPHENOL	1.4444000444400444400444440444444444444	777744677776777746777777777777777777777	
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 73 71 68 81 72 94	QC LIMIT 25-134 43-125 25-125 32-125 32-125 42-126	
RL: Reporting Limit	, henol		



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04G024

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Twelve (12) water samples were received on 07/08/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd ed.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the control limits.

Serial Dilution/Post Analytical Spike

Sample G024-01 was analyzed for serial dilution. % Difference was not evaluated since parent sample was not detected. Analytical spike was performed and met the QC requirement.

5. Matrix Spike/Matrix Spike Duplicate

Sample G024-08 was spiked. Recoveries were within QC limit. %RPD was above QC.

Sample Analysis

Sample analyses were performed within the QC requirements. All criteria were met with the aforementioned exception.

Samples were diluted at 20X due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Client : Project : Batch No. :	: TETRA TECH FW, INC. : MFA, SITE 1, CTO 86 : 04G024										Matrix Instru	ment ID :	WATER T1047 ;
							,						
	EMAX	RESULTS				MO	Analysis	Extraction				Collection	Received
SAMPLE 1D		(ng/L)	님	MOIST ((ng/L)	(ng/L)	DATETIME	DATETIME	LF10	CAL REF	PREP BATCH	DATETIME	DATETIME
		:	:	:		: : :	: : : : :	:::::	:::	: : :			
WBLK1W		S	1	Ν	5.	٦.	07/13/0412:04	07/12/0413:00	0 M47G007010	M47G007008	М 90099 Н	NA	07/12/04
LCS1W		5.05	-1	NA	۲,	Ξ:	07/13/0412:07	07/12/0413:00	0 M47G007011	M47G007008	HGG006W	ΝA	07/12/04
LCD1W		5.02	-	ΑN	~!	۲.	07/13/0412:09	07/12/0413:00	0 M47G007012	M47G007008	HGG006W	NA	07/12/04
86-S1-029AS		38	20	¥	4	2	07/13/0412:55	07/12/0413:00	0 M47G007031	M47G007020	HGG009H	07/06/04	07/08/04
86-51-029		S	20	Ν	4	2	07/13/0412:14	07/12/0413:00	0 M47G007014	M47G007008	HGG005H	07/06/04	07/08/04
86-S1-029DL		R	100	Ν	50	10	07/13/0412:16	07/12/0413:00	0 M47G007015	M47G007008	М есооем	07/06/04	07/08/04
86-51-028		Q	20	Ä	4	2	07/13/0412:18	07/12/0413:00	0 M47G007016	M47G007008	MGG005H	07/06/04	07/08/04
86.51.027		2	20	¥	4	2	07/13/0412:21	07/12/0413:00	0 M47G007017	M47G007008	HGG006W	07/06/04	07/08/04
86-51-026		9	20	NA	4	?	07/13/0412:23	07/12/0413:00	0 M47G007018	M47G007008	HGG006W	07/06/04	07/08/04
86-51-025		£	82	¥	4	2	07/13/0412:25	07/12/0413:00	0 M47G007019	M47G007008	HGG006W	07/06/04	07/08/04
86-51-024		S	83	¥¥	₹	7	07/13/0412:33	07/12/0413:00	0 M47G007022	M47G007020	M90059H	07/06/04	07/08/04
86-51-023		웊	ଛ	۸×	4	2	07/13/0412:36	07/12/0413:00	0 M47G007023	M47G007020	HGG006W	07/06/04	07/08/04
86-51-022		웆	23	Ϋ́	4	ري ر	07/13/0412:38	07/12/0413:00	0 M47G007024	M47G007020	HGG006W	07/06/04	07/08/04
86.S1.022MS		4.1	23	ΑN	4	2	07/13/0414:04	07/12/0413:00	0 M47G00B010	M47G008008	HGG006W	07/06/04	07/08/04
86.S1.022MS		5.22	ឧ	¥	ᡇ	7	07/13/0414:06	07/12/0413:00	0 M47G008011	M47G008008	MGG006W	07/06/04	07/08/04
86-S1-020		ջ	23	ΝĄ	4	2	07/13/0412:45	07/12/0413:00	0 M47G007027	M47G007020	HGG006W	07/07/04	07/08/04
86-S1-019		9	20	Α¥	4	C3	07/13/0412:47	07/12/0413:00	0 M47G007028	M47G007020	HGG006W	07/07/04	07/08/04
86-S1-018		9	20	Ä	4	7	07/13/0412:50	07/12/0413:00	0 M47G007029	M47G007020	HGG005H	07/07/04	07/08/04
86-S1-017		오	ន	¥	4	2	07/13/0412:52	07/12/0413:00	0 M47G007030	M47G007020	M90055H	07/07/04	07/08/04

RL: Reporting Limit

Laboratory Data Consultants, Inc. **Data Validation Report**

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

July 6 through July 7, 2004

LDC Report Date:

August 10, 2004

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04G024

Sample Identification

86-S1-029

86-S1-028

86-S1-027**

86-S1-026

86-S1-025

86-S1-024

86-S1-023**

86-S1-022

86-S1-020

86-S1-019**

86-S1-018

86-S1-017

86-S1-022MS

86-S1-022MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

In the case where %RSD was greater than 15.0%, the laboratory used a calibration curve to evaluate the compound. All coefficients of determination (r²) were greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

The mean percent difference (%D) between the initial calibration RRF and the continuing calibration RRF was less than or equal to 20.0% and less than or equal to 25.0% for individual compounds.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds.

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-023** and 86-S1-022 and samples 86-S1-019** and 86-S1-018 were identified as field duplicates. No semivolatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04G024

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04G024

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

July 6, 2004

LDC Report Date:

August 10, 2004

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04G024

Sample Identification

86-S1-029

86-S1-028

86-S1-027**

86-S1-026

86-S1-025

86-S1-024

86-S1-023**

86-S1-022

86-S1-020

86-S1-019**

86-S1-018

86-S1-017

86-S1-022MS

86-S1-022MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions5and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-023** and 86-S1-022 and samples 86-S1-020 and 86-S1-019** were identified as field duplicates. No dissolved mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 04G024

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 04G024

No Sample Data Qualified in this SDG



NUMBER (

05335

1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

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NUMBER 05334

1230 Columbia Street, Suite 640 San Diego, CA 92101 (619) 234-8696

CHAIN-OF-CUSTODY RECORD

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Duane Harrison			,				1	ı							(FOR LABORATORY)		•		
PROJECT CONTACT Lynn Jefferson	,	AIRBILL NUMBE	18478	82	758	378/	7.6	4.10					ŀ		84H160				
SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVI	EL Y 4 E	T A T	(20)	, so	retor						COMMENTS	LOCATION	DEP		QС
86-51-031	8/18/04	1018	3	X	(L	doy	X	X								WI-15			eg
86-51-032	8/18/04	1105	3	X	ls.	doy	X	X	,							WI-19		1	RED
86-51-034	8/18/04	1146	3	X	(J	10 dol	X	X							-	W1-14		-	26
86-51-035	8/18/24	1415	3	X	le	10)	X	X								W1-12R			RG2
86-51-036	8/18/01	11125	3		Xu	day	X	X								W1-12R	П	1	Fo
86-51-037	8/19/04	0848	9	X	{a ,	don	X	X							Run MS/MSD	W1-22		(RG.
86-51-038	8/19/01	0935	3	X	U	doi	X	X								W1-5		1	R.E.
86-51-039	8/19/04	0945	3		Xu	TW AN	X	X								W1-5			0
86-51-040	8/19/04	1020	3	X	ls.		X	X		_						WI-8		۲	REL
86-51-041	809/01	1120	3		Xu	do	X	X								WI-24			L &
86-51,-042	8/19/04	,	3	X	u	186.1	X	X					ŕ			W1-16		Ĭ	4
RELINOUISHED BY (Stanature)	DATE 19/09/		ignature)		LA	BORA	TOR	Y INS	TRUCT	rions/ Ses	COMM (1)C	ENTS V C	field	11	Heral	SAMPLING COMMI	ENT:		
COMPANY	TIMESOU	COMPANY							i							H .			ļ
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (S	ignature)		CO	MPOS	ITE I	DESCI	RIPTIO	N	4. 4°	: 1	-			R3/04 Baseline			
COMPANY	TIME	COMPANY													e.	Dachia			
RELINQUISHED BY (Signature)	DATE	RECEIVED BY (Si	ignature)		30/35			1. 1. 1. 1. 1.					R LABO			Disting			
COMPANY	TIME	COMPANY			A60.00	Service and water	100 38 38	100 300 308	r÷	EUDENDU SINE I	OF SHIP SHIP SHIP OF	18 S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C. S. C.	ONDITIO	ON:	□INTACT □BROKEN				İ
COMPANY	TIME	COMPANY			lec.	ULER	SEA	L; ^	$\Pi_{\mathbb{D}}$	PACT	, L	BR	OKEN	107.00	and a responsible to the contract of the contr				ľ



1835 W. 205th Street Torrance, CA 90501

> Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 09-13-2004 EMAX Batch No.: 04H160

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 08/20/04. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis
86 - S1-031	н160-01	08/18/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86 - S1-032	H160-02	08/18/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-S1-034	н160-03	08/18/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-S1-035	H160-04	08/18/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86 - s1-036	н160-05	08/18/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-037	н160-06	08/19/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-038	н1 60-07	08/19/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1 - 039	н160-08	08/19/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-040	н160-09	08/19/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-S1-041	н160-10	08/19/04	WATER	MERCURY DISSOLVED

Sample ID C	ontrol # Co	l Date M	atrix A	Analysis		
86-s1-042 H	160-11 08,	/19/04 W	_	SEMIVOLATILE ORGANICS I	ВҮ	GCMS
	160-12 08,	/19/04 W	_	SEMIVOLATILE ORGANICS MERCURY DISSOLVED	ВҮ	GCMS
86-S1-0 37 MS Н	160-06M 08,	/19/04 W	ATER M	SEMIVOLATILE ORGANICS I MERCURY DISSOLVED		
86-s1-037MSD H	160-06s 08,	/19/04 W	ATER M	SEMIVOLATILE ORGANICS MERCURY DISSOLVED SEMIVOLATILE ORGANICS		

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director

1001



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04H160

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Twelve (12) water samples were received on 08/20/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample H160-06 was spiked. All recoveries were within QC limit. RPD of 4-Nitrophenol was above QC.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

Bis(2-Ethylhexyl)Phthalate found in sample H160-08 was from lab contamination which was not systematic since method blank, LCS/LCSD and the rest of the samples were devoid of this analyte. Furthermore, re-extraction, albeit out of holding time was free of this analyte. 4-Nitrophenol in MSD of H160-06 was manually reintegrated to correct for retention time shift.

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 04H160 Sample ID: 86-S1-031 Lab Samp ID: H160-07 Lab File ID: RIXO55 Ext Btch ID: SVH040W Calib. Ref.: RIXO07	Date Date Diluti Matrix % Mois Instru	Collected: 08, Received: 08, Extracted: 08, Analyzed: 09, on Factor: .94 ture	118/04 1/8/04 1/20/04 1/25/04 1/02/04
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-MITROANILINE 2.1-NITROANILINE 2.1-NITROANILINE 2.5-MITROANILINE 2.5-MITROANILINE 2.5-DINITRO-2-METHYLPHENOL 2.5-BINDOPHENYL 2.5-DINITRO-2-METHYLPHENOL 2.5-CHLOROPHENYL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-CHLOROPHENOL 2.5-CHOROPHENOL 2.5-CHOROPHENOL 2.5-CHOROPHENOL 2.5-CHOROPHENOL 2.5-CHOROPHENOL 2.5-CHOROPHENOL 2.5-CHOROPHENOL 2.5-CHOROPHENOL 2	T	L) 4444999444499444449944444444444444444	MD/1 44440054444544444444444444444444444444
RL: Reporting Limit	1		

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04H160 Sample ID: 86-S1-032 Lab Samp ID: H16D-02 Lab File ID: RIXD56 Ext Btch ID: SVH04GW Calib. Ref.: RIX007	Mairix % Mois	Collected: O Received: O Extracted: O Analyzed: O on Factor: W ture: N ment ID: T	8/18/04 8/20/04 8/20/04 8/25/04 16:00 9/02/04 23:22 94 ATER A -042
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-DIMETHYL PHENOL 2.4.5-DIMITRODUENOL 2.4.5-DIMITRODUENOL 2.4.5-DIMITRODUENOL 2.4.5-DIMITRODUENOL 2.5-DIMITRODUENOL 2.5-DIMITRODUENOL 2.6-DIMITRODUENOL 2.6-MITRODHINOL 2.MITRODHINOL 2.MITRODHINOL 3.31-DICHLOROBENZIDINE 3.11-DICHLOROBENZIDINE 3.11-DICHLOROBENZIDINE 3.11-DICHLOROBENZIDINE 3.11-DICHLOROBENZIDINE 3.11-DICHLOROBENZIDINE 4.11-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.5-MITROSO-1-1-N-POPYLAMINE 4.5-MITROSO-1-1-N-POPYLAMINE 4.5-MITROSO-1-1-N-POPYLAMINE 4.5-MITROSO-1-1-N-POPYLAMINE 4.5-MITROSO-1-1-N-POPYLAMINE 4.5-MITROSO-1-1-N-POPYLAMINE 4.5-MITROSO-1-1-POPYLAMINE 4.5-MITROSO-		RL: 444490944441944444444444444444444444444	L>-77774467777766777746777777777777777777
SURROGATE PARAMETERS 2.4 6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 69 62 52 61 57 86	QC LIMIT 253-1325 253-1325 253-1225 253-1225 253-1226	

Client: TETRA TECH FW, INC. Project: MFA SITE 1, CTO 86 Batch No.: 04H160 Sample ID: 86-S1-034 Lab Samp ID: H160-03 Lab File ID: RIXD57 Ext Btch ID: SVH046W Calib. Ref.: RIX007	Matrix % Mois Instru	Collected: 0 Received: 0 Extracted: 0 Analyzed: 0 on Factor: W ture N ment ID T	8/18/04 8/20/04 8/25/04 16:00 9/02/04 23:57 9/4 ATER A A -042
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.6.0-DINITROPHENOL 2.6-DINITROPHENOL 2.METHYLPHENOL 2.METHYLPHENOL 2.MITROPHENOL 3.NITROANILINE 2.NITROANILINE 4.6-DINITRO-2.METHYLPHENOL 4.5-DINITRO-2.METHYLPHENOL 4.6-DINITRO-2.METHYLPHENOL 4.CHLOROANILINE 4.CHLOROANILINE 4.CHLOROANILINE 4.CHLOROANILINE 4.CHLOROANILINE 4.CHLOROANILINE 4.NITROPHENOL ACENAPHTHENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(A)PHENOL BENZO(A)PHENOL BIS(2-CHLOROANTHENE BENZO(A)PHENOL BIS(2-CHLOROSTHYL)PHINALATE BIS(2-CHLOROS		9999 999 999 99999 9999999999999999999	7. 444499544445449644444444444444444444444
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	% RECOVERY 68 65 53 62 59 84	QC LIMIT 25-134 43-125 25-125 32-125 42-126	·

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04H160 Sample ID: 86-S1-035 Lab Samp ID: H160-04 Lab File ID: RIXO58 Ext Btch ID: SVH04GW Calib. Ref.: RIXO07	% Mois Instru	Collected: Received: Extracted: Analyzed: on Factor: ture ment ID	08/18/04 08/25/04 08/25/04 08/25/04 09/03/04
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-DICHLOROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.NITROPHENOL 2.NITROPHENOL 2.NITROPHENOL 2.NITROPHENOL 2.NITROPHENOL 2.NITROPHENOL 2.NITROPHENOL 4.5-DINITRO-Z-METHYLPHENOL 4.5-DINITRO-Z-METHYLPHENOL 4.5-DINITRO-Z-METHYLPHENOL 4.5-DINITRO-Z-METHYLPHENOL 4.5-DINITROPHENYL-PHENYL ETHER 4.5-CHLORO-S-METHYLPHENOL 4.5-METHYLPHENOL 4.5-METHYLPHENOL 4.5-METHYLPHENOL 4.1-METHYLPHENOL 4.NITROSODIPHENOL 4.NITROSOD	RESULTS (Ug/L) 199 190 190 190 190 190 190 19	RL) 444499944449944444944449444494444994444994444	MJL 44446777774677774677777777777777777777
CAPROLACIAM CARBAZOLE SURROGATE PARAMETERS 2-4.6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	ND ND % RECOVERY 	99.44 QC LIMIT 25-1122555 425-11286	4.7

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No : 04H160 Sample ID: 86-S1-036 Lab Samp ID: H160-05 Lab File ID: RIXIS9 Ext Btch ID: SVH040W Calib. Ref.: RIXU07	Date Collected: 08/18/04 Date Received: 08/20/04 Date Extracted: 08/25/04 16:00 Date Analyzed: 09/03/04 01:08 Dilution Factor: .94 Matrix WATER % Moisture NA Instrument ID : T-042
PARAMETERS 2, 4,5-TRICHLOROPHENOL 2, 4,5-TRICHLOROPHENOL 2, 4-DINTROPHENOL 2, 4-DINTROPHENOL 2, 4-DINTROPHENOL 2, 4-DINTROTOLUENE 2, 6-DINTROTOLUENE 2, 6-DINTROTOLUENE 2, 6-DINTROTOLUENE 2, 6-DINTROTOLUENE 2, 11 RORONAPHTHALENE 2-METHYLNAPHTHALENE 2-NITROMILINE 2-NITROMILINE 3, 31-DICHLOROBENZIDINE 3, 11-RORONANTLINE 4, 6-DINTRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-NETHYLPHENOL 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE 4-NITROMILINE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE BENZO(A, PYRENE BENZO(A, PYRENE BENZO(A, PYRENE BENZO(B, FLUORANTHENE BENZO(B, FLUORANTHENE BENZO(C, H, I) PERYLENE BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHYL) PETHER BIS(2-CHLOROETHALATE CHRYSENE DIN-TOTYLPHTHALATE DI-N-OCTYLPHTHALATE DI-N-OCTORDEN DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE 2-FLUOROBI-PHENOL ATROMIC TORONA 2-FLUOROPIENOL A	RESULTS (Ug/L)
RI: Reporting Limit	,

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04H160 Sample ID: 86-S1-037 Lab Samp ID: H180-06 Lab File ID: RIXO52 Ext Btch ID: SVH040W Calib. Ref: RIXO07	Date (Date Date Date Date Date Dilutix Mois' Instru	Collected: C Received: C Extracted: C Analyzed: C on Factor: C ture: N ment ID: 1	8/19/04 88/19/04 18/25/04 18/25/04 18/25/04 16:00 19/02/04 21:01 16:00
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4-5-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-NITEROPHENOL 2.4-NITEROPHENOL 2.4-NITEROPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTEROPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 4.5-DINTEROPHENOL 5.5-DINTEROPHENOL 6.5-DINTEROPHENOL \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	RL-14449994444944494444444444444444444444	MDL-444499544445444964444444444444444444444	
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	76 75 63 74 65 103	QC LIMIT 25-134 25-125 25-125 252-125 242-126	

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04H160 Sample ID: 86-S1-038 Lab Samp ID: H16G-07 Lab File ID: RIXO78 Ext Btch ID: SVH040W Calib. Ref.: RIXO07	Date (Date (Date (Date (Diluti) Matrix % Mois Instru	Collected: Received: Extracted: Analyzed: on Factor: ture ment ID:	08/19/04 08/29/04 08/25/04 16:00 09/03/04 20:26 .94 water NA T-042
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-MITROPHENOL 2.4-5-MITROPHENOL 2.4-5-MITROPHENOL 2.4-5-DINTERO-2-METHYLPHENOL 4.5-5-DINTERO-2-METHYLPHENOL 4.5-5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-CHLOROPHENYL-PHENYL ETHER 4.5-CHLOROPHENYL-PHENYL ETHER 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 4.5-MITROPHENOL 5.5-MITROPHENOL 6.5-MITROPHENOL 6.5-	#(1 1444999444499444499444444494444444444	L) 77774467777467777746777777777777777777
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2.FLUOROBIPHENVI 2.FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENVL-D14	% RECOVERY 64 49 33 39 43 101	QC LIMIT 25-134 43-125 25-125 25-125 32-125 42-126	

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04H160 Sample 1D: 86-S1-039 Lab Samp ID: H160-08 Lab File ID: RIXO79 Ext Btch ID: SVH040W Calib. Ref.: RIX007	% Mois Instru	WINCIAL ID . 1	/19/04 //20/04 //25/04 16:00 //03/04 21:01 /TER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.4.5-DINITROPHENOL 2.6.5-DINITROPHENOL 2.6.5-DINITROPHENOL 2.6.5-DINITROPHENOL 2.6.5-DINITROPHENOL 2.6.5-DINITROPHENOL 2.6.5-DINITROPHENOL 3.31-DICHLOROBENZIDINE 3.NITROANILINE 4.6.5-DINITRO-2-METHYLPHENOE 4.6.5-DINITRO-2-METHYLPHENOE 4.6.5-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 4.6-DINITRO-	T1); U3); 2292929292929299999999999999999999999	RL) - 444400044440444400444444444444444444	MD/L - 4-4-4-6-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-7-

RL: Reporting Limit
(1): Cannot be separated from 3-Methylphenol
(2): Cannot be separated from Diphenylamine
Suspected lab contamination. Sample was reextracted out of holding time and reanalyzed.
No bis(2-ethylhexyl)phthalate was found.

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04H160 Sample ID: 86-S1-040 Lab Samp ID: H160-09 Lab File ID: RIXO80 Ext Btch ID: SVH040W Calib. Ref.: RIXO07		Collected: D Received: O Extracted: O Analyzed: O on Factor: W ture : N ment ID : T	B/19/04 B/20/04 B/25/04 16:00 B/25/04 21:36 9/03/04 21:36 ATER A -042
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-DICHLOROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROPHENOL 2.MITROPHENOL 2.MITROPHENOL 2.MITROPHENOL 3.31-DICHLOROBENZIDINE 3.1-NITROANILINE 4.6-DIMITRO-2-METHYLPHENOL 4.8-DIMITRO-3-METHYLPHENOL 4.5-CHLORO-3-METHYLPHENOL 4.5-CHLORO-3-METHYLPHENOL 4.5-CHLOROAMILINE	RESULTS (U9/L) ND ND ND ND ND ND ND ND ND ND ND ND ND	RL)-444499944449944499444	MDL 19717777446777776777746777
2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-DICHLOROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPOLUENE 2.4-DIMITROPOLUENE 2.6-DIMITROPOLUENE 2.6-DIMITROPOLUENE 2.6-DIMITROPOLUENE 2.6-DIMITROPOLUENE 2.6-DIMITROPOLUENE 2.METHYLAPHTHALENE 2.METHYLAPHTHALENE 2.MITROPHENOL 2.MITROPHENOL 3.3-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-TROANILINE 4.6-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.5-DIMITRO-3-METHYLPHENOL 4.CHLORO-3-METHYLPHENOL 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.MITROANILINE 4.MITROANILINE 4.MITROPHENOL ACENAPHTHENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BIS(2-CHLOROBITHYL)ETHER BIS(2-CHLOROBITHYL)ETHER BIS(2-CHLOROBITHYL)ETHER BIS(2-CHLOROBITHYL)ETHER BIS(2-CHLOROBITHYL)ETHER BIS(2-CHLOROBITHALATE DI-N-BUTYLPHTHALATE DI		44494449944444444444444444444444444444	4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.
DIBENZOFURAN DIBENZOFURAN DIBETHYLPHTHALATE FLUDRANTHEME FLUDRANTHEME FLUDRANTHEME HEXACHLOROBENZENE HEXACHLOROGETHAME INDENO(1),2,3-CD)PYRENE ISOPHOROME N-NITROSO-DI-N-PROPYLAMINE N-NITROSODIPHENYLAMINE (2) NITROBENZENE PENTACHLOROPHENOL PHENANTHRENE		9 99 999999 9999 999	4.44995444544564444444444444444444444444
CARBAZOLE SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	% RECOVERY 78 73 62 75 68 124	9.4 QC LIMIT -25-134 43-125 25-125 32-125 32-125 42-126	4. 7

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04H160 Sample ID: 86-S1-041 Lab Samp ID: H160-10 Lab File ID: RIXO81 Ext Btch ID: SVH040W Calib. Ref.: RIXO07	Date Date Date Date Date Dite Matrix Moi	Callected: Received: Recreived: Analyzed: ion Factor: x	08/19/04 08/20/04 08/25/04 16:00 08/33/04 22:12 04/03/04 22:12 04 04 04/04/04/04/04/04/04/04/04/04/04/04/04/0
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOL 2,4-DIMENTYLPHENOL 2,4-DIMITROPHENOL 2,4-DINITROPOLUENE 2,5-DINITROTOLUENE 2,5-DINITROPOLUENE 2,5-DINITROPOLUENE 2,5-DINITROPOLUENE 2,5-DINITROPOLUENE 2,5-DINITROPOLUENE	ND ND ND ND ND ND ND ND	9-4 9-4 9-14 199 194	44440057
2-METHYLNAPHTHALENE 2-METHYLHAPHNOL 2-NITROANILINE 2-NITROPHENOL 3.3'-DICHLOROBENZIDINE 3.4'-DINITROANILINE 4.6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL, ETHER		9999 1944499 1999 1999 1999	444544496444
4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-MITROANILINE 4-NITROANILINE 4-NITROPHENOL ACENAPHIHENE ACENAPHIHENE	ND ND ND ND ND ND ND	99999 99999 9999	4-7 4-7 4-7 4-7 4-7
ANTHRACENE BENZO(A) ANTHRACENE BENZO(A) PYRENE BENZO(B) FLUORANTHENE BENZO(B) FLUORANTHENE BENZO(C) FLUORANTHENE BENZO(C) H I PERYLENE BIS(2-CALOROETHOXY) METHANE BIS(2-CALOROETHYL) BITHER BIS(2-CALOROETHYL) BITHER	#D #D #D #D #D #D #D #D #D #D #D #D #D #	99999999999999	4.77 4.77 4.77 4.77 4.77
BIS(2-EIHYLHEXYL)PHIHALAIE BUTYLBERZYLPTHALATE CHRYSENE DI-N-BUTYLPHTHALATE DI-N-OCTYLPHTHALATE DIBENZO(A, H)ANTHRACENE DIBENZOFURAN DIETHYLPHTHALATE	35 55 55 55 55 55 55 55 55 55 55 55 55 5	99999999999999999999999999999999999999	44.77.7.7.7.6.7.
FLUORANTHENE FLUORENE HEXACHLOROSENZENE HEXACHLOROCYCLOPENTADIENE HEXACHLOROCYCLOPENTADIENE HEXACHLOROCYCLOPENTADIENE INDENO(1, 2, 3 - CD)PYRENE ISOPHOROME N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO	ND ND ND ND ND ND ND ND	99 99999999	44544444444444444444444444444444444444
2,4,5-TRICHLOROPHENOL 2,4-5-TRICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DIMITROPHENOL 2,4-DIMITROTOLUENE 2,5-DIMITROTOLUENE 2,5-DIMITROTOLUENE 2,5-DIMITROTOLUENE 2,5-DIMITROTOLUENE 2,5-DIMITROTOLUENE 2,5-DIMITROTOLUENE 2,6-DIMITROPHENOL 2,MITROPHENOL 2,MITROPHENOL 3,31-DICHLOROBENZIDINE 3,11-DICHLOROBENZIDINE 3,11-DICHLOROBENZIDINE 3,11-DICHLOROBENZIDINE 3,11-DICHLOROBENZIDINE 3,11-DICHLOROBENYL-PHENYL ETHER 4,5-DIMITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 8-CHLOROPHENOL ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(C)A HIDPRYYLENE BENZO(C)A HIDPRYYLENE BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROETHANE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZO(A, H)ANTHRACENE DIBENZOFURAN DIETHYLPHTHALATE DI-BIPHENYL DI-BIPHENYL N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPY	ND ND ND ND ND ND ND ND	\$2500 \$250 \$250 \$250 \$250000000000000000	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
SURROGATE PARAMETERS 2-46-TRIBROMOPHENOL 2-56LUORDBIPHENYL 2-56LUORDBIPHENYL NITROBENZENE-D5 PHENDL-D5 TERPHENYL-D14 RL: Reporting Limit	% RECOVERY 77 71 62 73 107	QC LIMIT 25-134 43-125 25-125 32-125 42-126	

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 04H160 Sample ID: 86-S1-042 Lab Samp ID: H160-11W Lab File ID: RIXO97 Ext Btch ID: SVH040W Calib. Ref.: RIXO07	Date Date Date Date Date Dilut Matri % Moi:	Collected: Received: Received: Extracted: Analyzed: ion Factor: x sture ument ID:	08/19/04 08/20/04 08/25/04 16:00 09/04/04 18:55 .94 WATER NA T-042
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4-6-TRICHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROPHENOL 2.4-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.CHLOROPHENOL 2.METHYLNAPHTHALENE 2.CHLOROPHENOL 2.MITROANILINE 2.MITROANILINE 4.MITROANILINE 4.BODNEMYL-PHENYL ETHER 4.CHLORO-3-METHYLPHENOL 4.BROMOPHENYL-PHENYL ETHER 4.CHLORO-3-METHYLPHENOL 4.CHLOROMILINE 4.CHLOROMILINE 4.CHLOROMILINE 4.MITROPHENOL 4.CHLOROMILINE 4.MITROPHENOL 4.CHLOROMILINE 4.MITROPHENOL 4.CHLOROMILINE 4.MITROPHENOL 4.CENAPHTHYLENE ANTHARCENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(G, A)PYRENE BENZO(G, A)PYRENE BENZO(G, FLUORANTHENE BENZO(G, FLUORANTHENE BENZO(G, FLUORANTHENE BENZO(G, FLUORANTHENE BENZO(G, FLUORANTHENE BENZO(G, FLUORANTHENE BENZO(G, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BENZO(C, FLUORANTHENE BIS(2-CHLOROCTHANE DIENEDO(C, FLOORANTHENE BIS(2-CHLOROCTHANE DIENEDO(C, FLOORANTHENE DIENEDO(C, FLOORANTHENE DIENEDO(C, FLOORANTHENE DIENEDO(C, FLOORANTHENE DIENEDO(C, FLOORANTHENE FLUORANTHENE FLUORANTHENE FLUORANTHENE FLUORANTHENE PHENOL PHENANTHENE PHENOL PHENANTHENE PHENOL PHENANTHENE PHENOL PHENANTHENE SURROGATE PARAMETERS 7. 2.4.6-TRIBROMOPHENOL 2.FLUOROBIPHENOL NITROBENZENE-DS PHENOL-D5 TERPHENYL-D14 RL: REPORTING LIMIT	T	R/10000 0000 0000 00000 0000000000000 00000	MD/ 444499544445444644444444444444444444444

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04H160 Sample ID: 86-S1-030 Lab Samp ID: H160-12W Lab File ID: RIXO98 Ext Btch ID: SVH040W Calib. Ref.: RIXO07	Date Date Date Date Diluti Matrix % Mois Instru	Collected: OE Received: OE Extracted: OE Analyzed: OS on Factor: OS ture: NA ment ID: T-	7/19/04 1/20/04 1/25/04 16:00 1/04/04 19:30 1/104/04 19:30 1/104/04 19:30
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,5-TRICHLOROPHENOL 2.4,5-TRICHLOROPHENOL 2.4,5-INITROPHENOL 2.4,6-INITROPHENOL	RL):444900444490444400444440046666666666666		
RL: Reporting Limit	, hanal		

CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04H160

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Twelve (12) water samples were received on 08/20/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blanks were free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the QC limit.

4. Serial Dilution/Post Analytical Spike

Sample H160-06 was analyzed for serial dilution and post analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample H160-06 was spiked. Recoveries were within QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met. '

Samples were analyzed at DF40 due to matrix interference of high chloride level.

METROD 7470A DISSOLVED MERCURY BY COLD VAPOR

Client Project Batch No.										·	Matrix Instru	Matrix : W	WA1ER T1047
										-			
		RESULTS			R	Š	Analysis	Extraction		۵,		Collection	Received
SAMPLE ID	SAMPLE ID	(ng/l')	DLF MOIS	_	(ng/L)	(ng/L)	DATETIME	DATETIME	LFID	CAL REF	PREP BATCH	DATETIME	DATETIME
			: -	: 2			08/27/0411-66	M 08/24/0412-30 M	M47H047010	M47H047008	HGHO42W)	70/96/00 .
I Coltu		20.5		¥ X	; ~		08/27/0411:48		M47H047011	M47H047008	HGH042W	¥.	08/26/04
LCD 1W		5.01	-	Ä	۲.	·-	08/27/0411:51		M47H047012	M47H047008	MGH042W	N.	08/26/04
86-51-031		₽	70	¥.	æ	4	08/27/0412:04	08/26/0412:30 M	M47H047018	M47H047008	HGH042W	08/18/04	08/20/04
86-51-032		윷	05	N.	œ	,	08/27/0412:06	08/26/0412:30 M	M47H047019	M47H047008	HGH042W	08/18/04	08/20/04
86-51-034		2	05	NA	ю	7	08/27/0412:13	08/26/0412:30 M	M47H047022	M47H047020	HGH042W	08/18/04	08/20/04
86-\$1-035		2	05	¥.	E0	7	08/27/0412:15	08/26/0412:30 M	M47H047023	M47H047020	HGH042W	08/18/04	08/20/04
86-51-036		₽	640	¥	∞	4	08/27/0412:17	08/26/0412:30 M	M47H047024	M47H047020	HGHO42W	08/18/04	08/20/04
86-51-038		윷	40	¥	œ	4	08/27/0412:19	08/26/0412:30 M	M47H047025	M47H047020	HGH042W	08/19/04	08/20/04
86-51-039		웃	07	¥	œ	4	08/27/0412:22	08/26/0412:30 M	M47H047026	M47H047020	HGH042W	08/19/04	08/20/04
86-51-040		ş	07	AA	æ	7	08/27/0412:24	08/26/0412:30 #	M47H047027	M47H047020	нено42м	08/19/04	08/20/04
86-51-041		Ş	04	Ä	ဆ	7	08/27/0412:26	08/26/0412:30 M	M47HD47028	M47HD47020	HGH042W	08/19/04	08/20/04
86-51-042		윤	0†	ΑN	Ø	4	08/27/0412:28	08/26/0412:30 M	M47H047029	M47H047020	HGH042W	08/19/04	08/20/04
86-51-030		짚	70	NA	œ	4	08/27/0412:30	08/26/0412:30 M	M47H047030	M47H047020	HGH042W	08/19/04	08/20/04
MBLK2W		S	-	Ä	۲.	۲.	09/03/0418:00	09/03/0411:00 M	M471008010	M471008008	M90015H	NA	09/03/04
LCS2W		5.01		ΑN	2.	٦.	09/03/0418:02	09/03/0411:00 M	M471008011	M471008008	H21001DH	ΝA	09/03/04
LCD2W		5.08	-	Ä	۲.	۲.	09/03/0418:04	09/03/0411:00 #	M471008012	M471008008	HGI 006W	NA	09/03/04
86-S1-037A			04	Ä	∞	4	09/03/0418:28	09/03/0411:00 P	M471008022	M471008020	HG1006W	08/19/04	08/20/04
86-51-037			04	¥	ю	4	09/03/0418:30	09/03/0411:00 K	M471008023	M471008020	HG1006W	08/19/04	08/20/04
86-S1-0370			200	¥	40	2	09/03/0418:32	09/03/0411:00 #	M471008024	M471008020	HG1006W	08/19/04	08/20/04
86-S1-037H			40	4X	හ	4	09/03/0418:34	09/03/0411:00 P	M471008025	M471008020	M90015H	08/19/04	08/20/04
86-S1-037M			05	N.	æ	7	09/03/0418:37	09/03/0411:00 M	M471008026	M471008020	HG1006W	08/19/04	08/20/04
							-			•			

RL: Reporting Limit

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

August 18 through August 19, 2004

LDC Report Date:

September 30, 2004

Matrix:

Water

ORIGINAL

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04H160

Sample Identification

86-S1-031

86-S1-032

86-S1-034

86-S1-035

86-S1-036**

86-S1-037

86-S1-038

86-S1-039**

86-S1-040

86-S1-041**

86-S1-042

86-S1-030

86-S1-037MS

86-S1-037MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
9/3/04	Di-n-octylphthalate '	22.2	86-S1-038 86-S1-039** 86-S1-040 86-S1-041**	J (all detects) UJ (all non-detects)	P
9/4/04	Di-n-octylphthalate	25.6	86-S1-042 86-S1-030	J (all detects) UJ (all non-detects)	Р

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound .	%D	Associated Samples	Flag	A or P
9/1/04	N-Nitrosodiphenylamine	22.0	All samples in SDG 04H160	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	RPD (Limits)	Flag	A or P
86-S1-037MS/MSD (86-S1-037)	4-Nitrophenol	-	-	34 (≤30)	J (all detects) UJ (all non-detects)	A

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-035 and 86-S1-036** and samples 86-S1-038 and 86-S1-039** were identified as field duplicates. No semivolatiles were detected in any of the samples with the following exceptions:

	Concentr	ation (ug/L)	- "
Compound	86-\$1-038	86-S1-039**	RPD
Bis(2-ethylhexyl)phthalate	19U	750	Not calculable

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04H160

SDG	Sample	. Compound	Flag	A or P	Reason
04H160	86-S1-038 86-S1-039** 86-S1-040 86-S1-041** 86-S1-042 86-S1-030	Di-n-octylphthalate	J (all detects) UJ (all non-detects)	Р	Continuing calibration (%D)
04H160	86-S1-031 86-S1-032 86-S1-034 86-S1-035 86-S1-036** 86-S1-037 86-S1-038 86-S1-039** 86-S1-040 86-S1-041** 86-S1-042 86-S1-030	N-Nitrosodiphenylamine	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D)
04H160	86-S1-037	4-Nitrophenol	J (all detects) UJ (all non-detects)	А	Matrix spike/Matrix spike duplicates (RPD)

Moffett Airfield, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04H160

No Sample Data Qualified in this SDG

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, CTO 86

Collection Date:

August 18 through August 19, 2004

LDC Report Date:

September 30, 2004

Matrix:

Water

Parameters:

Dissolved Mercury

ORIGINAL

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04H160

Sample Identification

86-S1-031

86-S1-032

86-S1-034

86-S1-035

00-31-033

86-S1-036**

86-S1-037

86-S1-038

86-S1-039**

86-S1-040

86-S1-041**

86-S1-042

86-S1-030

86-S1-037MS

86-S1-037MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions5and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-035 and 86-S1-036** and samples 86-S1-038 and 86-S1-039** were identified as field duplicates. No dissolved mercury was detected in any of the samples.

XIV. Field Blanks

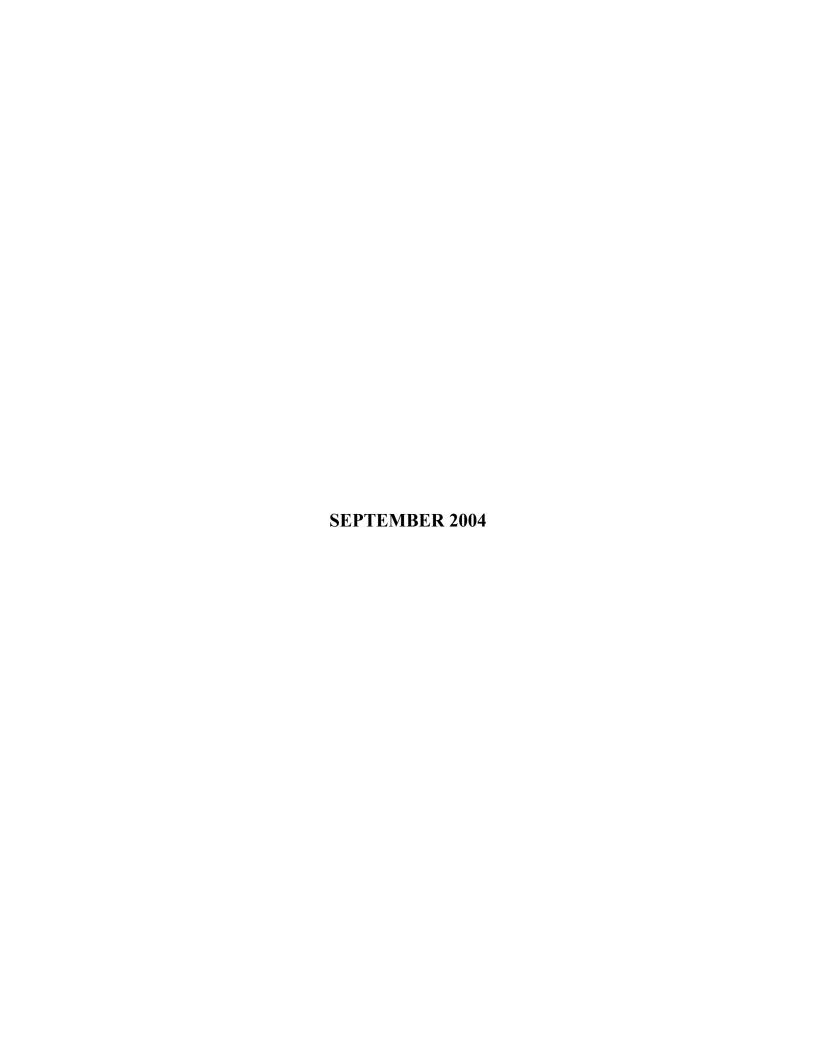
No field blanks were identified in this SDG.

Moffett Airfield, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 04H160

No Sample Data Qualified in this SDG

Moffett Airfield, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 04H160

No Sample Data Qualified in this SDG



NUMBER 05338

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	1	PURCHASE ORD	ER NO.				1	ç	ABIA	T 370	EC DI	OTH	DED		LABORATORY NAME		<u>. </u>			
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PROJECT CONTACT LYMN JELFELSON		AIRBILL NÚMBE	0761	30	80	·	87.8 87.8	74724							04I157					
SAMPLE ID	DATE COLLECTED	TIME COLLECTED	NO. OF CONTAINER	LEVE 3 4	L Y Y P	T A T	8	- 00	-						COMMENTS		LOCATION	DEP START		QС
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86-51-047	9/27/04	1355	9	X	W	A C	X	X							RUN MS/MSD		W1-14			Rej
96-51-048	9/28/04	0820	3	X	W	doy	X	X								l	W1-12R		/	Kej
86-51-049	9/28/04	0825	3		W	Joy	X	X								1	W1-12R		_	5
86-51-050	9/28/04	0950	3	X	i.f	day	X	X								1	WI-22			KG,
86-51-051	9/28/04	1030	3	X	W	doy	X	X								1	W1-5			Reg
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1835 W. 205th Street Torrance, CA-90501

Tei: (310) 618-8889 Fax: (310) 618-0818

Date: 10-13-2004

EMAX Batch No.: 041157

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200

Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 09/29/04. The data reported include:

Sample ID	Control #	Col Date	Matrix	Analysis
86-\$1-043	I 157-01	09/27/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-S1-044	I 157-02	09/27/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-045	1157-03	09/27/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-047	I 157-04	09/27/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-048	I 157-05	09/28/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-91-049	I 157-06	09/28/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-050	I 157-07	09/28/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-\$1-051	I 157-08	09/28/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-S1-047MS	I 157-04M	09/27/04	WATER	MERCURY DISSOLVED SEMIVOLATILE ORGANICS BY GCMS
86-S1-047MSD	I 157-04S	09/27/04	WATER	MERCURY DISSOLVED

Sample ID

Control # Col Date Matrix Analysis

SEMIVOLATILE ORGANICS BY GCMS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D.

Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

041157

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Eight (8) water samples were received on 09/29/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

Method Blank

Method blanks were free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit. RPD of two analytes were above QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample I157-04 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met with the aforementioned exception.

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04/157 Sample ID: 86-S1-043 Lab Samp ID: 1157-01 Lab File ID: RJX009 Ext Btch ID: SV1034W Calib. Ref.: RIX007	Date C Date C Date E Date C Dilutic Matrix % Moist Instrum	nent ID : T-C	27/04 29/04 30/04 13:00 04/04 17:23 11 ER
PARAMETERS 2,4,5-TRICHLOROPHENOL 2,4-DINETRICHLOROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,4-DINITROPHENOL 2,5-DINITROTOLUENE 2,6-DINITROTOLUENE 2-CHLORONAPHTHALENE 2-CHLORONAPHTHALENE 2-METHYLNAPHTHALENE 2-NITROANILINE 2-NITROANILINE 2-NITROANILINE 2-NITROANILINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 3,1-DICHLOROBENZIDINE 4,0-DINITRO-2-METHYLPHENOL 4,5-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHENOL 4,6-DINITRO-2-METHYLPHTHALATE DISENZO(6,5-DINITRO-2-METHYLPHTHALATE DI	57. 17.1 19.1 19.1 19.1 19.1 19.1 19.1 19	RL) 1000000000000000000000000000000000000	BL): 55555500000005555-55555555555555555555
RL: Reporting Limit	henot		

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 041157 Sample D: 86-S1-044 Lab Samp ID: 1157-02 Lab File ID: RJX010 Ext Btch ID: SV1034W Calib. Ref.: RIX007	Date Date Date Date Date Diluti Matrix % Mois Instru	ment ID : 1	99/27/04 19/29/04 19/30/04 13:00 10/04/04 17:58 96 VATER VATER 10 1-042
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.6-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.6.0-DINITROTOLUENE 2.6.0-DINITROTOLUENE 2.6.1-DINITROTOLUENE 2.6.1-DINITROTOLUENE 2.6.1-DINITROTOLUENE 2.6.1-DINITROPHENOL 2.METHYLNAPHTHALENE 2.METHYLPHENOL 2.MITROANILINE 2.MITROANILINE 4.MITROANILINE 4.6-DINITRO-2-METHYLPHENOL 4.5-DINITRO-2-METHYLPHENOL 4.5-DINITRO-2-METHYLPHENOL 4.5-DINITRO-3-METHYLPHENOL 4.5-DINITRO-3-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 6.0-DINITRO-3-METHYLPHENOL 6.0-DINITRO-3-METHYLPHENOL 6.0-DINITRO-3-METHYLPHENOL 6.0-DINITRO-3-METHYLPHTHALATE 6.0-DINITRO-3-METHYLPHTH	T	RL) 64669996666996666666666666666666666666	L) - 888866888888888888888888888888888888
RL: Reporting Limit			

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 041157 Sample ID: 86-S1-045 Lab Samp ID: 1157-03 Lab File ID: RUX011 Ext Btch ID: SVI034W Calib. Ref.: RIX007	Date Control Date Report Pate	llected: 09/27/04 leceived: 09/29/04 tracted: 09/30/04 malyzed: 10/04/04 i Factor: 1	
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SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA, SITE 1, CTO 86 Batch No. : 041157 Sample ID: 86-S1-047 Lab Samp ID: I157-04 Lab File ID: RXX012 Ext Btch ID: SV1034W Calib. Ref.: RIX007	Date (Date (Date (Date (Diluti) Matrix Mois Instru	nn Factor: I	27/04 27/04 29/04 30/04 13:00 04/04 19:09 ER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.4-DINTROPHENOL 2.5-DINTROPHENOL 2.5-DINTROPHENOL 2.6-DINTROPHENOL 2.6-DINTROPHENOL 2.6-DINTROPHENOL 2.6-DINTROPHENOL 2.6-DINTROPHENOL 2.6-DINTROPHENOL 3.3-DICHLOROBENZIDINE 3.1-TROPHENOL 4.5-DINTROPHENOL 5.5-DINTROPHENOL 5.5-DINTROPHENOL 5.5-DINTROPHENOL 5.5-DINTROPHENOL 5.5-DINTROPHENOL 5.5-DINTROPHENOL 6.5-DINTROPHENOL OL 6.5-DINTROSODIPHENOL 6.5-DINTRO		RL)- 100 100 100 100 100 100 100 100 100 100	MAY May 19 19 10 การเกรายอุจคระบารเกรายการยายการเกรายการ
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SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 041157 Sample ID: 86-S1-048 Lab Samp ID: 1157-05 Lab File ID: RJX015 Ext Btc ID: SVI034W Calib. Ref: RIX007	% Mois Instru	Collected: 09/ Received: 09/ Extracted: 09/ Analyzed: 10/ on Factor: 9/ ture: NA ment ID: T-C	28/04 29/04 30/04 13:00 04/04 20:54 ER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.0-INITROPHENOL 2.4.0-INITROPHENOL 2.4.0-INITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.6-DINITROTOLUENE 2.METHYLPHENOL 2.MITROPHENOL 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 4.6-DINITRO-3-METHYLPHENOL 4.7-CHLORO-3-METHYLPHENOL 4.7-CHLORO-3-METHYLPHENOL 4.0-METHYLPHENOL 4.0-METHYLPHENOL 4.0-METHYLPHENOL 4.0-METHYLPHENOL ACENAPHTHENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(BENZONE)PHENYLAMINE N-NITROSODIPHENYLAMINE ROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSODIPHENYL N-NITROSOD		RL) : 5555599	L):8888517788887888856888888888888888888888
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SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA IECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 041157 Sample ID: 86-S1-049 Lab Samp ID: 1157-06R Lab File ID: RJXJ90 Ext Btch ID: SVJ004W Calib. Ref.: RIXU07	Date Date Date Date Diluti Matrix Minstru	Collected: D9/2 Received: D9/2 Extracted: 10/0 Analyzed: 10/0 on Factor: .94 ture : NA ment ID : T-04	8/04 9/04 5/04 17:00 8/04 16:05 R
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.6-DIMETHYLPHENOL 2.4.0-DIMETHYLPHENOL 2.4.0-DIMETHYLPHENOL 2.4.0-DIMITROPHENOL 2.4.0-DIMITROPHENOL 2.4.0-DIMITROPHENOL 2.4.0-DIMITROPHENOL 2.4.0-DIMITROPHENOL 2.6-DIMITROPHENOL 2.METHYLPHENOL 2.METHYLPHENOL 2.MITROANILINE 2.NITROANILINE 4.NITROANILINE 4.0-DIMITRO-2-METHYLPHENOL 4.5-DIMITRO-2-METHYLPHENOL 5-DIMITRO-2-METHYLPHTHALATE 5-DIMITRO-3-METHYLPHTHALATE 5-DIBNICO(A, M)ANTHRACENE 5-DIMITRO-3-METHYLPHTHALATE 5-DIBNICO(A, M)ANTHRACENE 5-DISNICOSOPPOPULSETHER 5-DISNICOSOPPO	RESULTS (197/1) ND ND ND ND ND ND ND ND ND ND ND ND ND	RL) - 4.4.4.000	L) - 7777446777746777774677777777777777777
RL: Reporting Limit	, henal		

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04157 Sample ID: 86-51-050 Lab Samp ID: 1157-07 Lab File ID: RJX017 Ext Btch ID: SVI034W Calib. Ref.: RIX007	Date Date Date Date Date Diluti Matrix % Mois Instru	Collected: 09/ Received: 09/ Extracted: 09/ Analyzed: 10/ on Factor: ,95 ture: NA ment ID: T-0	28/04 29/04 39/04 13:00 04/04 22:04 ER 42
PARAMETERS	F1. S10 2922222222222222222222222222222222222	######################################	L) 88885,177,88888,78881,48888888888888888888888
SURROGATE PARAMETERS 2.4 6-TRIBROMOPHENOL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit (1): Cannot be separated from 3-Methyle	% RECOVERY 73 65 56 66 61 85	QC LIMIT 25-134 43-125 25-125 25-125 25-125 25-125 42-126	

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 041157 Sample 10: 86-S1-051 Lab Samp ID: 1157-08 Lab File ID: RJX018 Ext Btch ID: SV1034W Calib. Ref.: RIX007	Date (Date (Date (Date (Date (Date (Diluti Matrix Mois	Collected: 09/2: Received: 09/2: Extracted: 09/3: Analyzed: 10/0: On Factor: 95 WATEL ture : NA ment ID : T-04	3/04 3/04 3/04 13:00 4/04 22:39
Calib. Ref.: RIXUU/	Instru	=======================================	
PARAMETERS	RESULTS (ug/L)	\mathbb{R}^{1} . აი ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა ა	MDL (ug/L)
2,4,5-TRICHLOROPHENOL	ND ND	9.5 9.5	4.8 4.8
2,4-DICHLOROPHENOL 2,4-DICHLOROPHENOL	ND ND ND ND	9.5 9.5	4.8 4.8
2,4-DINITROPHENOL 2,4-DINITROTOLUENE	ND	18 18	9. <u>5</u>
Z.6-DINITROTOLUENE Z-CHLORONAPHTHALENE	ND ND	2. <u>5</u>	7.8 4.8
2-CHLOROPHENOL 2-METHYLNAPHTHALENE	ND ND ND	9.5	4.8
2-METRICHIENOL 2-NITROANILINE 3-NITROANIENOL	ND ND	15 9.5	5.7 4.8
3.3'-DICHLOROBENZIDINE	ND ND	9.5 9.5	4.8 4.8
4,6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL-PHENYL ETHER	ND ND	19 19	9.5 6.6
4-CHLORO-3-METHYLPHENOL 4-CHLOROANILINE	· ND ND	9.5 9.5	4.8
4-CHLOROPHENYL-PHENYL ETHER 4-METHYLPHENOL (1)	ND ND	9.5	4.8
4-NITROANILINE 4-NITROPHENDL	ND ND ND	15	7-8 4-8
ACENAPHIHENE ACENAPHIHYLENE	ND ND	9.5 9.5	4.8 4.8
BENZO(A)ANTHRACENE RENZO(A)ANTHRACENE RENZO(A)PYRENE	ND ND	9.5 9.5	4.8 4.8
BENZO(B)FLUORANTHENE BENZO(K)FLUORANTHENE	ND ND ND	9.5 9.5	4.8 4.8
BENZO(G,H,I)PERYLENE BIS(Z-CHLOROETHOXY)METHANE	NÐ	2.5	4.8
BIS(2-CHLOROETHYL)ETHER BIS(2-CHLOROISOPROPYL)ETHER	ND ND ND	9-5	4.5
BIS(2-EINTEMENT)PHINALATE BUTYLBENZYLPHTHALATE	ND ND	8.5 5	&&&&&\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
DI-N-BUTYLPHTHALATE	ND ND	9.5 9.5	4.8 4.8
DÍBENZO(Á H)ANTHRÁCENE DÍBENZOFURAN	ND ND	9.5 9.5	4.8 4.8
DIETHYLPHTHALATE DIMETHYLPHTHALATE	ND ND	19	4.8
FLUORANTHENE FLUORENE	ND ND ND	9.5	4.8
HEXACHLOROCYCLOPENTADIENE	ND ND	3.É	4.8 4.8
INDENO(1,2,3-CD)PYRENE	ND ND	9.5 9.5	4.8 4.8
N-NITROSO-DI-N-PROPYLAMINE N-NITROSODIPHENYLAMINE (2)	ND ND	9. <u>5</u>	4.8 4.8
N-NITROSODIPHENYLAMINE (2) NITROBENZENE PENTACHLOROPHENOL PHENANTHRENE PHENOL PHENOL PHENOL	ND ND	9,5	9.5
PHENDI	ND ND ND	3.5	4.8 4.8
PYRÉNE 1,1'-BIPHENYL ACETOPHENONE	ND ND	3:5	7.8
ACETOPHENORE ATRAZINE RENZALDEHYDE	ND	19 9 . 5	9.5 4.8
ATRIZINE BENZALDEHYDE CAPPOLACTAM CARBAZOLE	ND ND ND	9:5 9:5	4.8 4.8
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
2,4,6-TRIBROMOPHENOL	7 <u>2</u> 63	25-134 43-125 25-125 25-125 25-125 42-126	
2-FEUOROPHENOL NITROBENZENE-D5	72 63 55 67 57 80	25-125 32-125	
2,4,6-TRIBROMOPHENOL 2-FLUOROPHENOL XITROBENZENE-D5 PHENOL-D5 PTERPHENYL-D14	57 80	25-125 42-126	
RL: Reporting Limit	,		



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

041157

SW7470A DISSOLVED MERCURY BY COLD VAPOR

Eight (8) water samples were received on 09/29/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the QC limit.

4. Serial Dilution/Post Analytical Spike

Sample I157-04 was analyzed for serial dilution and post analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample I157-04 was spiked. %Recoveries were within QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC prcedures. All criteria were met. 'Samples were diluted 20 times due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

atch No. : 041	Project : MFA, SITE 1, CTO 86 Batch No. : 041157							 1 2 3 7 7 1 1	Instru	Instrument ID : 11047	11047	 - - - - -
14 50 10 11 11 11 11 11 11 11 11	EMBX RESULTS	RESUILTS		18	Q.	Anatvsis	Extraction	<u>-</u> "		Collection	Re	
SAMPLE ID	SAMPLE 1D	(ng/L)	DLF MOIST	/gm)	(ng/L)	DATETIME	DATETIME LFID	CAL REF	PREP BATCH	DATETIME	DA	DATETIME
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1									-
31 K14	HG1059WB	2	-	4A .2	۳.	10/01/0414:24	09/30/0416:00 M47J002010	10 M47J002008	HGI 059W	NA	60	9/30/04
LCS/W	HG1059WL	5.04	-	NA .2	٦.	10/01/0414:26	09/30/0416:00 M47J002011	11 M47J002008	HGI059W	Ā	60	19/30/04
201W	HG1059WC	5.1	-	4A .2	۲.	10/01/0414:29	09/30/0416:00 M47J002012	12 M47J002008	HG1059W	AN	60	19/30/04
5-S1-047AS	1157-04A	35.2	20	4 V	~	10/01/0414:31	09/30/0416:00 #471002013	113 M47J002008	HG1059W	09/27/04	60	19/29/04
5-81-047	1157-04	£	20	AA AN	2	10/01/0414:33	09/30/0416:00 #473002014	14 M47,1002008	HGI 059W	09/27/04	60	19/29/04
5-S1-0470L	1157-041	Ş	100	NA 20	은	10/01/0414:35	09/30/0416:00 M47J002015	115 M47J002008	HG1059W	09/27/04	8	39/53/04
5-S1-047MS	1157-04M	7.78	20	NA 4	7	10/01/0414:37	09/30/0416:00 M47J002016	16 M47J002008	HG1059W	09/27/04	60	19/53/04
5-S1-047MSD	1157-048	7.46	20	NA 4	2	10/01/0414:39	09/30/0416:00 M47J002017	17 M47J002008	HG1059W	09/27/04	60	19/25/04
5-81-043	1157-01	2	50	VA 4	2	10/01/0414:42	09/30/0416:00 M47J002018	118 M47J002008	HG1059W	09/27/04	60	39/29/04
5-51-044	1157-02	₽	20	NA 4	2	10/01/0414:44	09/30/0416:00 M47J002019	119 M47J002008	HG1059W	09/27/04	6	39/29/04
5-81-045	1157-03	2	20	7 YN	2	10/01/0414:50	09/30/0416:00 M47J002D22	122 M47J002020	HG1059W	09/27/04	6	09/29/04
5-51-048	1157-05	2	20	AA AN	2	10/01/0414:53	09/30/0416:00 M47J002023	23 M47J002020	HGI 059W	09/28/04	8	39/29/04
5-S1-049	1157-06	R	202	NA 4	7	10/01/0414:55	09/30/0416:00 M47J002024	124 M47J002020	HGI 059W	09/28/04	60	9/53/04
86-51-050	1157-07	2		NA 4	~	10/01/0414:57	09/30/0416:00 M47J002025	125 M47J002020	HG1059W	09/28/04	60	19/29/04
04-61-051	4467.00	Ś	2	7	•	10,001,007,000	20000017/W 00.21/0/02/00	0000001 Z /W 701	1050100	70786700	S	70700700

RL: Reporting Limit

LDC Report# 12637A2

ORIGINAL

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

September 27 through September 28, 2004

LDC Report Date:

October 21, 2004

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 041157

Sample Identification

86-S1-043**

86-S1-044

86-S1-045

86-S1-047

86-S1-048

86-S1-049**

86-S1-050

86-S1-051

86-S1-047MS

86-S1-047MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
10/8/04	2,4-Dinitrophenol '	35.0	86-S1-049** MBLK2W	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
9/1/04	N-Nitrosodiphenylamine	22.1	All samples in SDG 04l157	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D1W	4-Nitrophenol	-	-	51 (≤30)	J (all detects)	Р
(86-S1-043**	1				UJ (all non-detects)	
86-S1-044	Phenol	-	-	54 (≤30)	J (all detects)	
86-S1-045	,				UJ (all non-detects)	
86-S1-047						i
86-S1-048						
86-S1-050						
86-S1-051						
MBLK1W)						

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-048 and 86-S1-049** were identified as field duplicates. No semivolatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04l157

SDG	Sample	Compound	Flag	A or P	Reason
04l157	86-S1-049**	2,4-Dinitrophenol	J (all detects) UJ (all non-detects)	Р	Continuing calibration (%D)
04l157	86-S1-043** 86-S1-044 86-S1-045 86-S1-047 86-S1-048 86-S1-049** 86-S1-050 86-S1-051	N-Nitrosodiphenylamine	J (all detects) UJ (all non-detects)	А	Continuing calibration (ICV %D)
04l157	86-S1-043** 86-S1-044 86-S1-045 86-S1-047 86-S1-048 86-S1-050 86-S1-051	4-Nitrophenol Phenol	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	Р	Laboratory control samples (RPD)

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04I157

No Sample Data Qualified in this SDG

ORIGINAL

LDC Report# 12637A4

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

September 28, 2004

LDC Report Date:

October 28, 2004

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 041157

Sample Identification

86-S1-043**

86-S1-044

86-S1-045

86-S1-047

86-S1-048

86-S1-049**

86-S1-050

86-S1-051

86-S1-047MS

86-S1-047MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 10 water samples listed on the cover sheet including dilutions5and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-048 and 86-S1-049** were identified as field duplicates. No dissolved mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 04I157

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 04l157

No Sample Data Qualified in this SDG

NUMBER 05363

CHAIN-OF-CUSTODY RECORD

PROJECT NAME	21	PURCHASE OR				Τ,		ΔN	ATV	/CIFC	REQ	LIID	ED		LABORATORY NAME				·	
CTO86-Site 1- PROJECT LOCATION Moffett	K4/04	PROJECT NO.	48- 0.08		K 28		3 5	\mathbf{T}			<u> </u>				EMAX			tion		n
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SAMPLE ID	DATE COLLECTED	TIME	NO. OF	LEVE	L Y	г (О А (В Г (В									COMMENT	'S	LOCATION	DEI	тн	QC
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1835 W. 205th Street Torrance, CA 90501

> Tel: (310) 618-8889 Fax: (310) 618-0818

Date: 10-07-2004

EMAX Batch No.: 041171

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report

Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 09/30/04. The data reported include:

Sample ID	Control #	Col Date	Matrix Analysis	
86-\$1-052	I 171-01	09/28/04	WATER MERCURY DISSOLVED	
			SEMIVOLATILE ORGANICS BY GC	MS
86-\$1-053	1171-02	09/28/04	WATER MERCURY DISSOLVED	
			SEMIVOLATILE ORGANICS BY GC	MS
86-\$1-054	I 171-03	09/28/04	WATER MERCURY DISSOLVED	
			SEMIVOLATILE ORGANICS BY GC	MS
86-\$1-055	1171-04	09/28/04	WATER MERCURY DISSOLVED	
			SEMIVOLATILE ORGANICS BY GC	MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Kam Y. Pang, Ph.D. Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04[171

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Four (4) water samples were received on 09/30/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit. RPDs of two analytes were above QC.

6. Matrix Spike/Matrix Spike Duplicate

No MS/MSD sample was designated in this SDG.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 041171 Sample ID: 86-S1-052 Lab Samp ID: I171-01 Lab File ID: RJX019 Ext Btch ID: SV1034W Calib. Ref.: RIX007	Date Date Date Date Date Date Matrix Mois Instru	Collected: 09// Received: 09// Extracted: 09// Analyzed: 10// on Factor: .94/ ture : NA ment ID : T-0/	28/04 30/04 30/04 13:00 30/04 23:14 ER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.6-DINTEROPHENOL 2.6-DINTEROPHENOL 2.6-DINTEROPHENOL 2.6-DINTEROPHENOL 2.6-METHYLNAPHTHALENE 2.6-METHYLNAPHTHALENE 2.6-METHYLNAPHTHALENE 2.6-METHYLNAPHTHALENE 2.6-METHYLNAPHTHALENE 2.6-METHYLNAPHTHALENE 2.6-METHYLPHENOL 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENZIDINE 3.1-DICHLOROBENYL-PHENYL ETHER 4.6-DINTEROPHENYL-PHENYL ETHER 4.6-DINTEROPHENYL-PHENYL ETHER 4.6-DINTEROPHENOL 4.CHLOROPHENYL-PHENYL ETHER 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.NITROPHENOL 4.CENAPHTHYLENE ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(G, H, I)PERYLENE BIS(2CHLOROFTHOXY)METHANE BENZO(G, H, I)PERYLENE BIS(2CHLOROFTHOXY)METHALE BIS(2CHLOROFTHOXY)METHALE BIS(2CHLOROFTHOXY)METHALATE DIN-DOCTYLPHTHALATE DIN-DOCTYLPHTHALATE DIN-DOCTYLPHTHALATE DIN-DOCTYLPHTHALATE DIN-DOCTYLPHTHALATE DIN-DOCTYLPHTHALATE DISENZO(A, H)ANTHRACENE DISE	RE(J 1 1 1 1 1 1 1 1 1	RL1-4444999444499444499444444444444444444	
RL: Reporting Limit	nhenol		

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 041171 Sample ID: 86-S1-053 Lab Samp ID: 1171-02 Lab File ID: RXV020 Ext Btch ID: SVI034W Calib. Ref.: RIX007	Date Collected: 09/28/04 Date Received: 09/30/04 Date Extracted: 09/30/04 13:00 Date Analyzed: 10/04/04 23:49 Dilution Factor: .96 Matrix WATER % Moisture NA Instrument ID : T-042
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,5-TRICHLOROPHENOL 2.4,-DIMETHYLPHENOL 2.4,-DIMETHYLPHENOL 2.4,-DIMITROTOLUENE 2.5,-DIMITROTOLUENE 2.5,-DIMITRONOLUENE 2.5,-DIMIT	RESULTS (19/1) (
2,4,6-TRIBROMOPHENOL 2-FLUDROBIPHENYL 2-FLUDROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	78 25-134 65 43-125 51 32-125 56 25-125 91 42-126

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No : 04171 Sample ID: 86-51-054 Lab Samp ID: 1171-03 Lab File ID: RXV021 Ext Btch ID: SV1034W Calib. Ref.: RIX007	Date C Date Date E Date E Ditutio Matrix % Moist Instrum	LUIC . NA .	8/04 0/04 0/04 15/04 00:24 RR
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(1): Cannot be separated from 3-Methylphenot (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 0417705 Sample : D1: 86-S1-055 Lab Sample : 1771-04 Lab File : D1: RX022 [EXT Btch ID: SVI034W Calib. Ref: RIX007	Date Date Date Date Date Date Date Diluti Matrix Mois Instru	Collected: Received: Extracted: Analyzed: on Factor: ture ment ID	09/28/04 09/35/04 09/35/04 10/05/04 10/05/04 09:59 .99 WATER NA T-042
PARAMETERS 24,5-TRICHLOROPHENOL 24,5-TRICHLOROPHENOL 24,5-TRICHLOROPHENOL 24,5-TRICHLOROPHENOL 24,5-DINITROTOLUENE 25,5-DINITROTOLUENE 26,6-DINITROTOLUENE 27,6-DINITROTOLUENE 27,6-DINITROTOLUENE 27,6-DINITROTOLUENE 28,6-DINITROTOLUENE 29,6-DINITROTOLUENE 20,6-DINITROTOLUENE 20,6-DINITROTOLUENE 20,6-DINITROTOLUENE 21,6-DINITROTOLUENE 21,6-DINITROTOLUENE 21,6-DINITROTOLUENE 22,6-DINITROTOLUENE 23,1-DICHLOROBENZIDINE 33,1-DICHLOROBENZIDINE 33,1-DICHLOROBENZIDINE 33,1-DICHLOROBENZIDINE 31,1-ROBENDOL 4,6-DINITROTOLUENE 4,6-DINITROTOLUENE 4,6-DINITROTOLUENE 4,6-DINITROTOLUENE 4,6-DINITROTOLUENE 4-NITROPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL BENZO(A,ANTHRACENE BENZO(A,ANTHRACENE BENZO(A,ANTHRACENE BENZO(B,FLUORABTHENE BENZO(B,FLUORABTHENE BENZO(C,FLUOROSTOPPUL)ETHER BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHYL)ETHER BIS(2-CHLOROFTHALATE DIENZO(A,H)ANTHRACENE DIENZO(A,H)ANTHRACENE DIENZO(A,H)ANTHRACENE DIENZO(A,H)ANTHRACENE DIENZOLOFURAN DIETHYLPHTHALATE DIBENZO(A,H)ANTHRACENE DIENZOLOFURAN DIETHYLPHTHALATE DIBENZOLOFURAN RESUS / 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	RL) - 999990009999009999009999999999999999	L) - 99999999999999999999999999999999999	
RL: Reporting Limit	,		



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

041171

SW7470A DISSOLVED MERCURY BY COLD VAPOR

Four (4) water samples were received on 09/30/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met the holding time criteria.

2. Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within the QC limit.

4. Serial Dilution/Post Analytical Spike

Sample 1157-04 from another SDG was analyzed for serial dilution and post analytical spike. All QC requirements were met.

Matrix Spike/Matrix Spike Duplicate

MS/MSD sample was not designated for this SDG.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met. Samples were diluted 20 times due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

											- .
: WATER : TIO47	, Donntrood	שברבואבת	DATETIME		09/30/04	09/30/04	09/30/04	09/30/04	09/30/04	09/30/04	09/30/04
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			CAL REF	:	M47J002008	M47J002008	M47J002008	M47J002020	M47J002020	M47J002020	M47J002020
			L F 10		M47J002010	M47J002011	M47J002012	1 M47J002027	M47J002028) M47J002029) M47J002030
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		Analysis	DATETIME		0/01/0414:24	0/01/0414:26	0/01/0414:29	0/01/0415:02	0/01/0415:04	0/01/0415:06	0/01/0415:08
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: TETRA TECH FW, INC. : MFA, SITE 1, CTO 86 : 041171		EMAX	SAMPLE ID		HG1059WB	HG1059W	HGI0594C	1171-01	1171-02	1171-03	1171.04
Client : Project : Batch No. :			SAMPLE ID	***************************************	MRI K3W	1031	1C01W	86-51-052	86-51-053	86-51-054	86-51-055

RL: Reporting Limit

ORIGINAL

LDC Report# 12637B2

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

September 28, 2004

LDC Report Date:

October 21, 2004

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04|171

Sample Identification

86-S1-052

86-S1-053**

86-S1-054

86-S1-055

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation for selected compounds. The coefficient of determination (r²) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria.

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	A or P
9/1/04	N-Nitrosodiphenylamine	22.1	All samples in SDG 04l171	J (all detects) UJ (all non-detects)	A

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Flag	A or P
LCS/D1W (All samples in	4-Nitrophenol	- "	-	51 (≤30)	J (all detects) UJ (all non-detects)	P
SDG 04 171))	Phenol	-	-	54 (≤30)	J (all detects) UJ (all non-detects)	

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-052 and 86-S1-053** were identified as field duplicates. No semivolatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04I171

SDG	Sample	. Compound	Flag	A or P	Reason
04 171	86-S1-052 86-S1-053** 86-S1-054 86-S1-055	N-Nitrosodiphenylamine	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D)
04 171	86-S1-052 86-S1-053** 86-S1-054 86-S1-055	4-Nitrophenol Phenol	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	P	Laboratory control samples (RPD)

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04I171

No Sample Data Qualified in this SDG

ORIGINAL

LDC Report# 12637B4

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

September 28, 2004

LDC Report Date:

October 28, 2004

Matrix:

Water

Parameters:

Dissolved Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04l171

Sample Identification

86-S1-052

86-S1-053**

86-S1-054

86-S1-055

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 4 water samples listed on the cover sheet including dilutions5and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.

None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-052 and 86-S1-053** were identified as field duplicates. No dissolved mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Data Qualification Summary - SDG 04l171

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Dissolved Mercury - Laboratory Blank Data Qualification Summary - SDG 04l171

No Sample Data Qualified in this SDG





CHAIN-OF-CUSTODY RECORD

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1835 W. 205th Street Torrance, CA 90501.

Tel: (310) 618-8889 ... Fax: (310) 618-0818

Date: 01-03-2005 EMAX Batch No.: 04L115

Attn: Lynn Jefferson

Tetra Tech FW, Inc. 1940 E Deere Ave, Suite 200 Santa Ana CA 92705

Subject: Laboratory Report Project: MFA, Site 1, CTO 86

Enclosed is the Laboratory report for samples received on 12/15/04. The data reported include :

Sample ID	Control #	Col Date	Matrix	Analysis	
86-S1-071	L115-01	12/13/04	WATER	MERCURY DISSOLVED	
				SEMIVOLATILE ORGANICS BY GC	1S
86-S1-072	L115-02	12/13/04	WATER	MERCURY DISSOLVED	
				SEMIVOLATILE ORGANICS BY GC	٩S
86-S1-073	L115-03	12/13/04	WATER	MERCURY DISSOLVED	
				SEMIVOLATILE ORGANICS BY GC	٩S
86-S1-075 ·	L115-04	12/13/04	WATER	MERCURY DISSOLVED	
00 01 010				SEMIVOLATILE ORGANICS BY GC	MS
86-S1-076	L115-05	12/13/04	WATER	MERCURY DISSOLVED	
00 01 0.0	2.11			SEMIVOLATILE ORGANICS BY GC	MS
86-s1-077	L115-06	12/13/04	WATER	MERCURY DISSOLVED	
GD 31 011	2113 00	12, 13, 51	,,,,,,	SEMIVOLATILE ORGANICS BY GC	MS
86-s1-078	L115-07	12/14/04	WATER	MERCURY DISSOLVED	
QQ-31-010	L113 07	12) 17) 04 ,	Watt Liv	SEMIVOLATILE ORGANICS BY GC	MS
86-S1-079	L115-08	12/14/04	WATER	MERCURY DISSOLVED	
00-21-079	L113-00	12/14/04	MATER	SEMIVOLATILE ORGANICS BY GC	MS
	. 445 00	10/1//0/	LIATED	MERCURY DISSOLVED	
86-\$1-080	L115-09	12/14/04	WATER	SEMIVOLATILE ORGANICS BY GC	MC.
					пS
86-S1-081	L115-10	12/14/04	WATER	MERCURY DISSOLVED	



Sample ID	Control #	Col Date	Matrix	Anatysis
				SEMIVOLATILE ORGANICS BY GCMS
86-\$1-082	L115-11	12/14/04	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-\$1-083	L115-12	12/14/04	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-S1-072MS	L115-02M	12/13/04	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS
86-S1-072MSD	L115-028	12/13/04	WATER	MERCURY DISSOLVED
				SEMIVOLATILE ORGANICS BY GCMS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Kam Y. Pang, Ph.D. Laboratory Director



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04L115

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Twelve (12) water samples were received on 12/15/04 for Semi Volatile Organic analysis by Method 3520C/8270C in accordance with USEPA SW846, 3rd ed.

1. Holding Time

Analytical holding time was met.

2. Tuning and Calibration

Tuning and calibration were carried out at 12-hour interval. All QC requirements were met.

3. Method Blank

Method blank was free of contamination at the reporting limit.

4. Surrogate Recovery

Recoveries were within QC limit.

5. Lab Control Sample/Lab Control Sample Duplicate

Recoveries were within QC limit.

6. Matrix Spike/Matrix Spike Duplicate

Sample L115-02 was spiked. All recoveries were within QC limit.

7. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client: TETRA TECH FW INC. Project: MFA, SITE 1, CTO 86 Batch No.: 04L115 Sample ID: 86-S1-071 Lab Samp ID: L115-01 Lab File ID: RLH262 Ext Btch ID: SVL023W Calib. Ref.: RLH007	. 10901	Collected: 12 Received: 12 Extracted: 12 Analyzed: 12 Ion Factor: .5 K WASTURE NAME OF THE COLUMN TO	/13/04 //15/04 //15/04 //20/04 16:00 //22/04 18:32 // /TER
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4DICHLOROPHENOL 2.4-DICHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMITROPHENOL 2.4-DIMITROPHENOL 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-CHLOROPHENOL 2.METHYLPHENOL 2.MITROPHENOL 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.31-DICHLOROBENZIDINE 3.4-DITROPHENOL 4.6-DIMITRO-2-METHYLPHENOL 4.6-DIMITRO-3-METHYLPHENOL 4.6-DIMITRO-3-METHYLPHENOL 4.CHLOROAMILINE 4.CHLOROAMILINE 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.METHYLPHENOL ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE ACENAPHTHENE BENZO(A)ANNHACENE BENZO(A)ANNHACENE BENZO(A)PYRENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(CA)PYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BENZO(CA)PHYRENE BIS(2-CHLOROETHOXY)METHANE 31S(2-CHLOROETHOXY)METHANE 31S(2-CHLOROETHOXY)METHANE 31S(2-CHLOROETHANE) BENZOCO(CA)PHYRENE BIS(2-CHLOROETHOXY)METHANE 31S(2-CHLOROETHANE) BIS(2-CHLOROETHANE)	RL) 4444000444440044440044444444444444444)	
SARBAZOLE SURROGATE PARAMETERS 4.4.6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	ND % RECOVERY 71 73 65 77 71 101	9.4 qc LIMIT 	4.7

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04L115 Sample D0: 86-S1-072 Lab Samp ID: L115-02 Lab File ID: RLH263 Ext Btch ID: SVL023W Calib. Ref: RLH007	Mois Instri	Collected: 12 Received: 12 Extracted: 12 Analyzed: 12 ion Factor: 9 x : WA sture : NA ument ID : T-	/13/04 /15/04 /20/04 16:00 /22/04 18:59 4 FER
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-O-LOTHOROPHENOL 2.4-O-LOTHOROPHENOL 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITRODUENOL 2.4-DIMITRODUENOL 2.4-DIMITRODUENOL 2.4-RITROPHENOL 3.3-OITCHLOROSENZIDINE 3.3-OITCHLOROSENZIDINE 3.3-OITCHLOROSENZIDINE 3.4-CHLORO-3-METHYLPHENOL 4.6-DIMITRO-2-METHYLPHENOL 4.6-DIMITRO-2-METHYLPHENOL 4.6-DIMITRO-3-METHYLPHENOL 5.0-DIMITRO-3-METHYLPHENOL 5.0-DIMITRO-3-METHYLPHENOL 6.1-DIMITRO-3-METHYLPHENOL 6.1-DIMITRO-3-METHYLPHTHALATE 6.1-DIMITRO-3-MET	######################################	ID RL) -4444999444499944449999999999999999999	L): 77774467777677746777777777777777777777
PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit	,	42-128	

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

PARAMETERS RESULTS RESULTS (ug/L)	Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04L115 Sample ID: 86-S1-073 Lab Samp ID: L115-03 Lab File ID: RLH266 Ext Btch ID: SVL023W Calib. Ref.: RLH007	Date Date Date Diluti Matrix % Mois Instru	MEILE ID . I	2/13/04 2/13/04 2/15/04 2/20/04 16:00 2/22/04 20:22 94 ATER A -041
TERPHENYL-D14 103 42-126	2-4.5-TRICHLOROPHENOL 2-4.6-TRICHLOROPHENOL 2-4.6-TRICHLOROPHENOL 2-4.0-INTROPHENOL 2-4.0-INTROPHENOL 2-4.0-INTROPHENOL 2-4.0-INTROPHENOL 2-4.0-INTROTOLUENE 2-6-DINTROTOLUENE 2-6-DINTROTOLUENE 2-6-DINTROTOLUENE 2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 3-MITROPHENOL 4-DINTRO-2-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-CHLOROPHENYL-PHENYL ETHER 4-METHYLPHENOL 4-NITROPHENOL ACENAPHTHENE ANTHRACENE 3ENZO(A)ANTHRACENE 3ENZO(A)ANTHRACENE 3ENZO(A)PYRENE 3ENZ	2	1444404444444444444444440000 00 0000000 0000 000	***************************************

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW INC. Project : MFA SITE 1, CTO 86 Batch No. : 04115 Sample ID: 86-\$1-075 Lab Samp ID: L115-04 Lab File ID: RLH267 Ext Btch ID: SVIO23W Calib. Ref.: RLH007	Date Date Date Diluti Matrix % Mois Instru	ture : nA	3/04 5/04 10/04 16:00 22/04 20:50 ER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.4.5-TRICHLOROPHENOL 2.5-TRICHLOROPHENOL 2.5-TRICHLOROPHENOL 2.6-TRICHLOROPHENOL 2.6-TRICHLOROPHENOL 2.6-TRICHLOROPHENOL 3.7-TRICHLOROPHENOL 3.7-TRICHLOROPHENOL 3.7-TRICHLOROPHENOL 4.5-TRICHLOROPHENOL U/1) 	RL1-4444000444404444444444444444444444444		
SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2FLUOROPHENOL 3FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14 3L: Reporting Limit (1): Cannot be separated from 3-Methyl 2): Cannot be separated from Diphenyl	% RECOVERY 77 75 65 77 69 100	QC LIMIT 	
(2): Cannot be separated from Diphenýl	amine		

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW. INC. Project : MFA SITE 1, CTO 86 Batch No. : 04L115 Sample	Date Date Date Date Diluti Matrix % Mois Instru	Collected: 12 Received: 12 Extracted: 12 Analyzed: 12 On Factor: 9 ture NA ment ID T	713/04 /13/04 /15/04 /20/04 16:00 /22/04 21:17 4 TER 041
PARAMETERS 2, 4,5-TRICHLOROPHENOL 2, 4,5-TRICHLOROPHENOL 2, 4,5-TRICHLOROPHENOL 2, 4,5-TRICHLOROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2, 4-DINITROPHENOL 2-MITROPHENOL 2-MITROPHENOL 2-NITROANILINE 2-NITROANILINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 3, 1-DICHLOROBENZIDINE 4, 6-DINITRO-2-METHYLPHENOL 4-BEOMOPHENYL-PHENYL ETHER 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-CHLOROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROANILINE 4-NITROPHENOL ACENAPHTYLENE ACENAPHTYLENE ANTHRACENE BENZO(A,ANTHRACENE BENZO(A,ANTHRACENE BENZO(A,ANTHRACENE BENZO(A,PYRENE BENZO(A,PYRENE BENZO(A,PYRENE BENZO(B,FLUORANTHENE BIS(2-CHLOROETHYL)PHTHALATE DI-N-BUTYL	T	R11 444499994444499944444444444444444444	ML) - 7777446777746777777777777777777777777
RL: Reporting Limit			

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04L115 Sample ID: 86-S1-077 Lab Samp ID: L115-06 Lab File ID: RLH269 Ext Btch ID: SVL023W Calib. Ref.: RLH007	Date Date l Date Dilution Matrix Mois Instru	Collected: 12/ Received: 12/ Extracted: 12/ Analyzed: 12/ on Factor: .94 ture : NA ment ID : T-O	13/04 15/04 15/04 20/04 16:00 22/04 21:45 ER 41
PARAMETERS 2-1-1-1-2 2-4-5-TRICHLOROPHENOL 2-4-6-TRICHLOROPHENOL 2-4-0-1 ICHLOROPHENOL 2-4-0-1 ICHLOROPHENOL 2-4-0-1 INTROTOLUENE 2-4-0-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROTOLUENE 2-6-1 INTROMILINE 2-NITROANILINE 3-1-1 INTROPHENOL 2-NITROANILINE 4-6-1 INTROPHENOL 4-6-1 INTROPHENOL 4-6-1 INTROPHENOL 4-6-1 INTROPHENOL 4-6-1 INTROPHENOL 4-6-1 INTROPHENOL 4-6-1 INTROPHENOL 4-NIT		RL) 44449000444400444400444440444444444444	
CARBAZOLE SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2.FLUOROPHENOL 2.FLUOROPHENOL NITROBENZEME-D5 PHENOL-D5 TERPHENYL-D14 RL: Reporting Limit (1): Cannot be separated from 3-Methylp	ND % RECOVERY 73 79 71 82 72 109 ,	9.4 90. LIMIT 	4.1

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA IECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No.: 04L115 Sample ID: 86-S1-078 Lab Samp ID: L115-07 Lab Fite ID: RLH270 Ext Btch ID: SVL023W Calib. Ref.: RLH007	· Itistidi	Collected: 12 Received: 12 Extracted: 12 Analyzed: 12 on Factor: 9 ture : NA ment ID : I-	/14/04 /15/04 /20/04 16:00 /22/04 22:13 /ER
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4.6-TRICHLOROPHENOL 2.4.6-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.4.0-DINITROPHENOL 2.6.0-DINITROPHENOL 2.6.0-DINITROPHENOL 2.6.0-DINITROPHENOL 2.6.0-DINITROPHENOL 2.6.0-DINITROPHENOL 2.6.0-DINITROPHENOL 2.6.0-DINITROPHENOL 3.3-DICHLOROBENZIDINE 3.4-DICHLOROBENZIDINE 3.4-DICHLOROBENZIDINE 3.4-DICHLOROBENZIDINE 3.4-DICHLOROBENZIDINE 3.4-DICHLOROBENZIDINE 3.4-DICHLOROBENZIDINE 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITRO-2-METHYLPHENOL 4.6-DINITROPHENOL 4.6-TRIBROMOPHENOL 4	REGULTS)	L):4444000444440044444004444444444444444	L): \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
RL: Reporting Limit	henol		

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Ctient : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04L115 Sample 10: 86-S1-079 Lab Samp ID: L115-08 Lab File ID: RLH271 Ext Btch ID: SVL023W Calib. Ref.: RLH007	Date Date Date Date Date Ditei Matrix Mois Instru	Collected: 12/ Received: 12/ Extracted: 12/ Analyzed: 12/ on Factor: 94 ture : NA ment ID : T-O	14/04 15/04 15/04 20/04 16:00 22/04 22:40 ER 41
PARAMETERS 2.4.5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.4-DINTEROPHENOL 2.METHYLNAPHTHALENE 2.METHYLNAPHTHALENE 2.MITROPHENOL 2.NITROANILINE 4.6-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.6-DINTERO-2-METHYLPHENOL 4.6-DINTERO-3-METHYLPHENOL 4.6-DINTERO-3-METHYLPHENOL 4.CHLOROPHENYL-PHENYL ETHER 4.CHLORO-3-METHYLPHENOL 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER 4.CHLOROPHENYL-PHENYL ETHER BENZO(A)ANTHRACENE BENZO(A)ANTHRACENE BENZO(A)PYRENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(B)FLUORANTHENE BENZO(C)FLUORANTHENE BIS(2-CHLOROTHYNY)METHANE BIS(2-CHLOROTHYNY)METHANE BIS(2-CHLOROTHYNY)METHANE BIS(2-CHLOROTHYNY)METHANE BIS(2-CHLOROTHYNY)METHANE BIS(2-CHLOROTHYNY)METHANE BIS(2-CHLOROTHYNY)METHANE BIS(2-CHLOROTHYNY)METHANE DI-N-BUTYLPHTHALATE DI-N-BUTYLPHTH	T	につ、44445004444504444504444444444444444444	MV-444409544445444444444444444444444444444
PHENOL DE TERPHENYL-D14 RL: Reporting Limit (1): Cannot be separated from 3-Methylp	106	25-125 42-126	

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No. : 04L175 Sample 10: 86-S1-080 Lab Samp ID: L115-09 Lab File ID: RLH272 Ext Btch ID: SVL023W Calib. Ref.: RLH007	Date Date Date Date Date Date Date Diluti Matrix % Mois	Collected: Received: Extracted: Analyzed: on Factor: ture: Nament ID:	2/14/04 2/15/04 12/20/04 16:00 2/22/04 23:08 94 MATER IA I- D41
PARAMETERS 2-4-5-TRICHLOROPHENOL 2-4-6-TRICHLOROPHENOL 2-4-6-TRICHLOROPHENOL 2-4-0-DIMETHYLPHENOL 2-4-0-DIMETHYLPHENOL 2-4-0-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITROTOLUENE 2-6-DIMITRODLUENE 2-NITROANLINE 2-NITROANLINE 3-NITROANLINE 3-NITROANLINE 3-NITROANLINE 4-6-DIMITRO-2-METHYLPHENOL 4-6-DIMITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL 4-CHLOROPHENYL-PHENYL ETHER 4-MITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 6-NITROPHENOL NOL 6-NITROSODIPHENOL 6-NIT	RECOVER A STANDARD CONTRACTOR OF THE CONTRACTOR	RL) -4444999444449999 999 999999 99999999 999999	: 041
2.4.6-TRIBROMOPHENOL 2FLUOROBIPHENVL 2FLUOROPHENOL VITROBENZENE-D5 PHENOL-D5 PERPHENVL-D14 L: Reporting Limit 21: Cannot be separated from 3-Methylp	69 74 67 85 70 103 ,	25 - 134 43 - 125 25 - 125 32 - 125 42 - 126	

(1): Cannot be separated from 3-Methylphenol (2): Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86 Batch No. : 04L115 Sample D: 86-S1-081 Lab Samp ID: L115-10 Lab File ID: RLH273 Ext Btch ID: SVL023W Calib. Ref.: RLH007	Date Date Date Date Diluti Matrix % Mois Instru	Collected: 12 Received: 12 Extracted: 12 Analyzed: 12 ion Factor: 58 (ture WA mment ID T	714/04 714/04 720/04 16:00 722/04 23:35 4 TER
PARAMETERS	RESULTS (ug/L)	RL (ug/L)	MDL (ug/L)
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-TRICHLOROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROPHENOL 2.4-5-DINTEROTOLUENE 2.4-5-DINTEROTOLUENE 2.5-CHLOROPHENOL 2.4-METHYLAPHTHALENE 2.4-METHYLAPHTHALENE 2.4-MITROPHENOL 2.1-NITROPHENOL 2.1-NITROPHENOL 2.1-NITROPHENOL 2.1-NITROPHENOL 2.1-NITROPHENOL 2.1-NITROPHENOL 2.1-NITROPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-DINTEROPHENOL 4.5-DINTERO-2-METHYLPHENOL 4.5-METHYLPHENOL 4.5-METHYLPHENOL 4.5-MITROANILINE 4.		L) -4444000444400444400444444444444444444); ;;;4444005444454496644444444444444444444444
HEXACHLOROETHANE INDENO(1, 2, 3-CD)PYRENE INDENO(1, 2, 3-CD)PYRENE ISOPHOROÑE N-NITROSO-DI-N-PROPYLAMINE N-NITROSO-DI-N-PROPYLAMINE (2) NITROBENZENE PENTACHLOROPHENOL PHENANTHRENE PHENOL PYRENE 1, 1'-BIPHENYL ACETOPHENONE ATRAZINE SENZALDEHYDE CAPROLACTAM CARBAZOLE	29222222222222222222222222222222222222	9.449.444.44499.4449.444 9.999999999999	\$7.7.7.7.467.7.7.3.47.7.7 \$4.44.4955444.25.444
SURROGATE PARAMETERS 2,4,6-TRIBROMOPHENOL 2-FLUOROBIPHENYL 2-FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 PHENOL-D14 RL: Reporting Limit	% RECOVERY 68 79 77 92 76 100	QC LIMIT 25-134 43-125 25-125 25-125 325-125 42-126	

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

Client : TETRA TECH FW, INC. Project : MFA, SITE 1, CTO 86 Batch No.: 04L115 Sample ID: 86-S1-082 Lab Samp ID: L115-11 Lab File ID: RLH274 Ext Btch ID: SVL023W Calib. Ref.; RLH007	Date Date Diluti	Menic IV . I c	14/04 115/04 120/04 16:60 23/04 00:03 ER
PARAMETERS 2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-DIMETHYLPHENOL 2.4-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-CHLOROPHENOL 2.1-DIMITROTOLUENE 2.6-CHLOROPHENOL 2.1-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITRODUENE 2.6-DIMITRODUENE 2.1-DIMITRODUENE 2.1-DIMITRODUENE 2.1-DIMITRODUENE 2.1-DIMITRODUENE 2.1-DITROMNILINE 4.6-DIMITRODUENE 3.3-DITROMNILINE 4.6-DIMITRODUENE 4.6-DIMI		Menic IV . I c)
PHENOL PYRENE 1 11-BIPHENYL ACETOPHENONE ATRAZINE BENZALDEHYDE CAPROLACTAM CARBAZOLE SURROGATE PARAMETERS 2.4.6-TRIBROMOPHENOL 2.FLUOROBIPHENYL 2.FLUOROPHENOL 3.FLUOROPHENOL ND ND ND ND ND % RECOVERY 68 74 68 81 73 89 9	9.4 9.4 90. LIMIT 25-134 43-125 25-125 25-125 42-126	4.7 4.7	

[1]: Cannot be separated from 3-Methylpheno[2]: Cannot be separated from Diphenylamine

SW 3520C/8270C SEMI VOLATILE ORGANICS BY GC/MS

20-1-1-1-1-1000000-1-1-1-1-1-1-10000000	Date	Callected: 12	======================================
Client : TETRA TECH FW, INC. Project : MFA SITE 1, CTO 86	Date	Collected: 12 Received: 12 Extracted: 12 Analyzed: 12 on Factor: 9	/14/04 /15/04 /20/04 16:00 /23/04 00:30 4 TER
Project : MFA, SITE 1, CTO 86 iBatch No. : 04115 iSample ID: 86-S1-083 Lab Samp ID: 1115-12 Lab File ID: RLM275 Ext Btch ID: SVL023W Calib. Ref.: RLM07	Date	Extracted: 12	/20/04 16:00 /23/04 00:30
Sample ID: 86-\$1-083	Date	Analyzed: 12	/23/04 00:30
Tab File ID: RLH275	- Matrix	WA.	ŤER
Lab File ID: RLH275 Ext Btch ID: SVL023W :Calib. Ref.: RLH007	- Matrix % Mois	ture : NA	041
Client : TETRA TECH FW. INC. Project : MFA SITE 1, CTO 86 Batch No.: 04L115 Sample ID: 86-\$1-083 Lab Samp ID: L115-12 Lab File ID: RLH275 Ext Btch ID: SVL023W Calib. Ref.: RLH007	Instru	ment ID : T-	U4 ============
(
, DADAUE 1770 O	RESULTS (ug/L)	RL (ug/L) 9.4 9.4 9.4 9.4 9.4 9.4	MDL (ug/L)
PARAMETERS		(ug/L)	
2,4,5-TRICHLOROPHENOL	ND	2-4	4-7
2,4,6-TRICHLOROPHENOL	ND ND	9:4	4:7
2.4-DIMETHYLPHENOL	ND ND	9.4	4.7
2.4-DINITROPHENOL	ND	19 10	8.4
2.4-DINITROTOLUENE 2.6-DINITROTOLUENE	ND ND	19	5:3
Z-CHLORONAPHTHALENE	ND	2-4	4-7
2-CHLOROPHENDL	ND ND	9.4	4.7
2-WETHYLPHENOL	ЙĎ	9-4 9-4 9-4 19	4-7
2-NITROANILINE	ND ND		2.9
3.31-DICHLOROBENZIDINE	ND	9.4 9.4 9.4	4:7
3-NITROANILINE	ND	9.4 9.4 19	4-7
4.6-DINITRO-Z-METHYLPHENOL	ND ND	19	6.3
4-CHLORO-3-METHYLPHENOL	ND	9-4	4-7
4-CHLOROANILINE	ND ND	ð. Ž	4:7
4-METHYLPHENOL (1)	ND	9.4 9.4 9.4 9.4	4-Z
4-NITROANILINE	ND ND	9,4	4.7
'ACENADATAENE	ND	9.4	4:7
ACENAPHTHYLENE	NĐ	2.4	4-7
ANTHRACENE	ND ND	9:4	4:7
SENZO(A)PYRENE	ND	99009900999	4.7
BENZO(B) FLUORANTHENE	ND ND	8.4	2-4
- SENZU(K)FLUUKANI HENE - BENZU(G.H.I)PERYLENE	ND	9.4	4: <u>7</u>
SIS(2-CHLOROETHOXY)METHANE	ND ND	9.4	4-7
BIS(2-CHLOROETHYL)ETHER	ND ND	9.4 9.4 19	4.7
BIS(2-ETHYLHEXYL)PHTHALATE	ND	10	9.4
BUTYLBENZYLPHTHALATE	ND ND	999999999	4:7
DI-N-BUTYLPHTHALATE	ND	9.4	4 <u>-7</u>
DI-N-OCTYLPHTHALATE	ND ND	8-2	2:5
DIBENZOFURAN	ND	9.4	4.7
DIETHYLPHTHALATE	ND ND	9.4 9.4 9.4 9.14 9.19	<u></u> }-∳
DIMETHICPHINALATE FILIORANTHENE	ND	9.4	4.7
FLUORENE	ND ND	9,4	4-7
HEXACHLOROGENZENE HEXACHLOROCYCLOPENTAD LENE	ND	9.4	4:7
HEXACHLOROETHANE	ND	9.4	4.7
INDENO(1,2,3-CD)PYRENE	ND ND	3.4 9.4	4:7
N-NITROSO-DI-N-PROPYLAMINE	ND	9 99 99 99 99 99 99 99 99 99 99 99 99 9	4.7
N-NITROSODIPHENYLAMINE (Z)	ND ND	ن ۲۰۵۶	4.7
PENTACHLOROPHENOL	ND	19	9.4
PHENANTHRENE	ND ND	010	2-9
SABENOT	ND	9.4 9.4 9.4 9.4	4.7
1,11-BIPHENYL	ND	2.4	4.7
2.4,5-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4,6-TRICHLOROPHENOL 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.4-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.6-DIMITROTOLUENE 2.16-DIMITROTOLUENE 2.17-DIMITROTOLUENE 2.18-DIMITROTOLUENE 2.18-DIM	ND ND	19	777744677777677777467777777777777777774677777467777
SENZALDEHYDE	ND ND	2.4	4-7,
SENZALDEHYDE SAPROLACTAM SARBAZOLE	ND ND	9.4 9.4	4:7
•			
SURROGATE PARAMETERS	% RECOVERY	QC LIMIT	
2 4 6-TRIBROMOPHENOL	68	25-134	
2-FLUOROBIPHENYL	77	43-125	
Z-FLUOROPHENOL NITRORENZENE-D5	82	32-125	
2.4 6-TRIBROMOPHENOL 2.FLUOROBIPHENVL 2.FLUOROPHENOL NITROBENZENE-D5 PHENOL-D5 TERPHENYL-D14	68 77 69 82 70 112	25-134 43-125 25-125 32-125 25-125 42-126	
TERPHENYL-D14	112	46-160	
RL: Reporting Limit			



CASE NARRATIVE

CLIENT:

TETRA TECH FW, INC.

PROJECT:

MFA, SITE 1, CTO 86

SDG:

04L115

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

Twelve (12) water samples were received on 12/15/04 for Dissolved Mercury analysis by Method 7470A in accordance with "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW846, 3rd edition.

1. Holding Time

Analysis met holding time criteria.

Method Blank

Method blank was free of contamination at the reporting limit.

3. Lab Control Sample/Lab Control Sample Duplicate

Lab control results were within QC limit.

4. Serial Dilution / Post-Analytical Spike

Sample L115-02 was analyzed for serial dilution and post-analytical spike. All QC requirements were met.

5. Matrix Spike/Matrix Spike Duplicate

Sample L115-02 was spiked. Recoveries were within QC limit.

6. Sample Analysis

Samples were analyzed according to the prescribed QC procedures. All criteria were met.

Samples were reported from dilution runs due to matrix interference.

METHOD 7470A DISSOLVED MERCURY BY COLD VAPOR

WATER 71047	Received	DATETIME		12/29/04	12/29/04	12/29/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04	12/15/04
ment ID :	Collection	DATETIME	:	¥N	NA	¥	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/13/04	12/14/04	12/14/04	12/14/04	12/14/04	12/14/04	12/14/04
Matrix Instru		PREP BATCH		HGL030W	HG1_030W	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W	HGC030M	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W	HGL030W
		CAL REF	:	M47L030009	M47L030009	M47L030009	M47L030043	M47L030043	M47L030043	M47L030043	M47L030043	M47L030043	M47L030043	M47L030043	M47L030043	M47L030043	M47L030055	M47L030055	M47L030055	M47L030055	M47L030055	M47L030055
		LF10	:::	10 M47L030011	10 M47L030012	10 M47L030013	10 M47L030045	10 M47L030046	ID M47L030047	10 M47L030048	10 M47L030049	10 M47L030050	10 M47L030051	2/29/0412:30 M47L030052	0 M47L030053	IO M47L030054	10 M47L030057	2/29/0412:30 M47L03005B	10 M47L030059	10 M47L030060	10 M47L030061	ID M47L030062
	Extraction	DATETIME	:	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:3	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:3	12/29/0412:30	12/29/0412:30	12/29/0412:30	12/29/0412:30
	Analysis	DATET1ME		12/29/0415:41	12/29/0415:43	12/29/0415:45	12/29/0416:59	2/29/0417:01	12/29/0417:03	2/29/0417:06	2/29/0417:08	2/29/0417:10	12/29/0417:12	12/29/0417:14	12/29/0417:16	12/29/0417:19	12/29/0417:25	12/29/0417:28	2/29/0417:30	12/29/0417:32	12/29/0417:34	12/29/0417:36
	MDL	(ng/L)			.1.	.1	2	2 1	10	2	.2	2 1	2	2	2	2	2 1	2	2	2 1	2	2 1
	귍	(ng/f.)	:	si.	ςi	vi	4	4	8	4	4	4	47	₹	4	4	4	4	4	4	4	4
		DLF MOIST	: : : :	¥ 1	I NA	NA I	₩.	₩.	NA NA	NA NA	NA NA	¥.	NA (AN (NA (AN (NA (NA NA	NA NA	₩	¥	NA (
	RESULTS	(ug/L) DI		유	4.98	4 97		ND 20	, ,	5.6 20												NG CS
TETRA TECH FW, INC. MFA, SITE 1, CTO 86 04L115	ЕМАХ	SAMPLE ID		HGL030WB	HGL030ML	HGL030WC	L115-02A	L115-02	L115-02T	L115-02M	1115-025	L115-01	L115-03	1115-04	L115-05	L115.06	L115-07	1115.08	1115-09	1115.10	1115-11	L115-12
Client : TE Project : MF/ Batch No. : 041		SAMPLE 1D	,	MBLKIW	LCS1W	LCD1W	86-S1-072AS	86-51-072	86-S1-072DL	86-51-072HS	86-S1-072MSD	86-51-071	86-S1-073	86-SI-075	86.S1.076	86-51-077	86.51.078	86-51-079	86.S1.080	86-51-081	86-S1-082	86-51-083

RL: Reporting Limit



LDC Report# 13002A2

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

December 13 through December 14, 2004

LDC Report Date:

January 14, 2005

Matrix:

Water

Parameters:

Semivolatiles

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04L115

Sample Identification

86-S1-071**

86-S1-072

86-S1-073

86-S1-075

86-S1-076

86-S1-077**

86-S1-078

86-S1-079

86-S1-080**

86-S1-081

86-S1-082

86-S1-083

86-S1-072MS

86-S1-072MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 8270C for Semivolatiles.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (October 1999) as there are no current guidelines for the method stated above.

A table summarizing all data qualification is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

Blank results are summarized in Section V.

Field duplicates are summarized in Section XVI.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. GC/MS Instrument Performance Check

Instrument performance was checked at 12 hour intervals.

All ion abundance requirements were met.

III. Initial Calibration

Initial calibration was performed using required standard concentrations.

The mean percent relative standard deviation (%RSD) for all compounds was less than or equal to 15.0% and less than or equal to 30.0% for selected individual compounds.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

Average relative response factors (RRF) for all system performance check compounds (SPCCs) were within method criteria.

IV. Continuing Calibration

Continuing calibration was performed at the required frequencies.

For the purposes of technical evaluation, all compounds were evaluated against the 25.0% (%D) National Functional Guideline criteria. Unless noted above, all compounds were within the validation criteria with the following exceptions:

Date	Compound	%D	Associated Samples	Flag	AorP
12/22/04	4,6-Dinitro-2-methylphenol ,	29.7	All samples in SDG 04L115	J (all detects) UJ (all non-detects)	A

Initial calibration verification (ICV) percent differences (%D) were less than or equal to 20.0% for all compounds with the following exceptions:

- Date	Compound	%D	Associated Samples	Flag	A or P
12/2/04	Benzaldchydo	23.8	All samples in SDG 04L115	J (all detects) UJ (all non-detects)	Α .

All of the continuing calibration RRF values for all system performance check compounds (SPCCs) were within method criteria.

V. Blanks

Method blanks were reviewed for each matrix as applicable. No semivolatile contaminants were found in the method blanks.

VI. Surrogate Spikes

Surrogates were added to all samples and blanks as required by the method. All surrogate recoveries (%R) were within QC limits.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

IX. Regional Quality Assurance and Quality Control

Not applicable.

X. Internal Standards

All internal standard areas and retention times were within QC limits.

XI. Target Compound Identifications

All target compound identifications were within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Compound Quantitation and CRQLs

All compound quantitation and CRQLs were within validation criteria for samples on

which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XIII. Tentatively Identified Compounds (TICs)

Tentatively identified compounds were not reported by the laboratory.

XIV. System Performance

The system performance was within validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by I evel III criteria.

XV. Overall Assessment

Data flags have been summarized at the end of the report.

XVI. Field Duplicates

Samples 86-S1-076 and 86-S1-077** and samples 86-S1-079 and 86-S1-080** were identified as field duplicates. No semivolatiles were detected in any of the samples.

XVII. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Data Qualification Summary - SDG 04L115

SDG	Sample	Compound	Flag	A or P	Reason
04L115	86-S1-071** 86-S1-072 86-S1-073 86-S1-075 86-S1-076 86-S1-077** 86-S1-079 86-S1-079 86-S1-080** 86-S1-081 86-S1-082	4,6-Dinitro-2-methylphenol	J (all detects) UJ (all non-detects)	Α	Continuing calibration (CCV %D)
04L115	86-S1-071** 86-S1-072 80-S1-073 86-S1-075 86-S1-076 86-S1-077** 86-S1-0778 86-S1-079 86-S1-080** 86-S1-081 86-S1-082 86-S1-083	Benzaldehyde	J (all detects) UJ (all non-detects)	A	Continuing calibration (ICV %D)

Moffett Airfield, Site 1, CTO 86 Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 04L115

No Sample Data Qualified in this SDG



LDC Report# 13002A4

Laboratory Data Consultants, Inc. Data Validation Report

Project/Site Name:

Moffett Airfield, Site 1, CTO 86

Collection Date:

December 13 through December 14, 2004

LDC Report Date:

January 14, 2005

Matrix:

Water

Parameters:

Mercury

Validation Level:

EPA Level III & IV

Laboratory:

EMAX Laboratories, Inc.

Sample Delivery Group (SDG): 04L115

Sample Identification

86-S1-071**

86-S1-072

86-S1-073

86-S1-075

86-S1-076

86-S1-077**

86-S1-078

86-S1-079

86-S1-080**

86-S1-081

86-S1-082

86-S1-083

86-S1-072MS

86-S1-072MSD

^{**}Indicates sample underwent EPA Level IV review

Introduction

This data review covers 14 water samples listed on the cover sheet including dilutions and reanalysis as applicable. The analyses were per EPA SW 846 Method 7470A for Dissolved Mercury.

This review follows a modified outline of the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (February 1994) as there are no current guidelines for the method stated above.

A table summarizing all data qualification flags is provided at the end of this report. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from specified protocols or is of technical advisory nature.

Blanks are summarized in Section III.

Field duplicates are summarized in Section XIII.

Samples indicated by a double asterisk on the front cover underwent a EPA Level IV review. A EPA Level III review was performed on all of the other samples. Raw data were not evaluated for the samples reviewed by Level III criteria since this review is based on QC data.

The following are definitions of the data qualifiers:

- U Indicates the compound or analyte was analyzed for but not detected at or above the stated limit.
- J Indicates an estimated value.
- R Quality control indicates the data is not usable.
- N Presumptive evidence of presence of the constituent.
- UJ Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.
- A Indicates the finding is based upon technical validation criteria.
- P Indicates the finding is related to a protocol/contractual deviation.
- None Indicates the data was not significantly impacted by the finding, therefore qualification was not required.

I. Technical Holding Times

All technical holding time requirements were met.

The chain-of-custodies were reviewed for documentation of cooler temperatures. All cooler temperatures met validation criteria.

II. Calibration

An initial calibration was performed.

The frequency and analysis criteria of the initial calibration verification (ICV) and continuing calibration verification (CCV) were met.

III. Blanks

Method blanks were reviewed for each matrix as applicable.

Data qualification by the initial, continuing and preparation blanks (ICB/CCB/PBs) was based on the maximum contaminant concentration in the ICB/CCB/PBs in the analysis of each analyte. No contaminant concentrations were found in the initial, continuing and preparation blanks.

IV. ICP Interference Check Sample (ICS) Analysis

ICP interference check sample was not required by the method.

V. Matrix Spike Analysis

Matrix spike (MS) and matrix spike duplicate (MSD) samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VI. Duplicate Sample Analysis

The laboratory has indicated that there were no duplicate (DUP) analyses specified for the samples in this SDG, and therefore duplicate analyses were not performed for this SDG.

VII. Laboratory Control Samples (LCS)

Laboratory control samples were reviewed for each matrix as applicable. Percent recoveries (%R) and relative percent differences (RPD) were within QC limits.

VIII. Internal Standards

ICP-MS was not utilized in this SDG.

IX. Furnace Atomic Absorption QC

Graphite furnace atomic absorption was not utilized in this SDG.

X. ICP Serial Dilution

ICP serial dilution was not required by the method.

XI. Sample Result Verification

All sample result verifications met validation criteria for samples on which a EPA Level IV review was performed. Raw data were not evaluated for the samples reviewed by Level III criteria.

XII. Overall Assessment of Data

Data flags have been summarized at the end of this report.

XIII. Field Duplicates

Samples 86-S1-076 and 86-S1-077** and samples 86-S1-079 and 86-S1-080** were identified as field duplicates. No mercury was detected in any of the samples.

XIV. Field Blanks

No field blanks were identified in this SDG.

Moffett Airfield, Site 1, CTO 86 Mercury - Data Qualification Summary - SDG 04L115

No Sample Data Qualified in this SDG

Moffett Airfield, Site 1, CTO 86 Mercury - Laboratory Blank Data Qualification Summary - SDG 04L115

No Sample Data Qualified in this SDG

APPENDIX D GROUNDWATER HYDROGRAPHS

FIGURE D-1
GROUNDWATER HYDROGRAPHS, WELLS W1-1 AND W1-1R

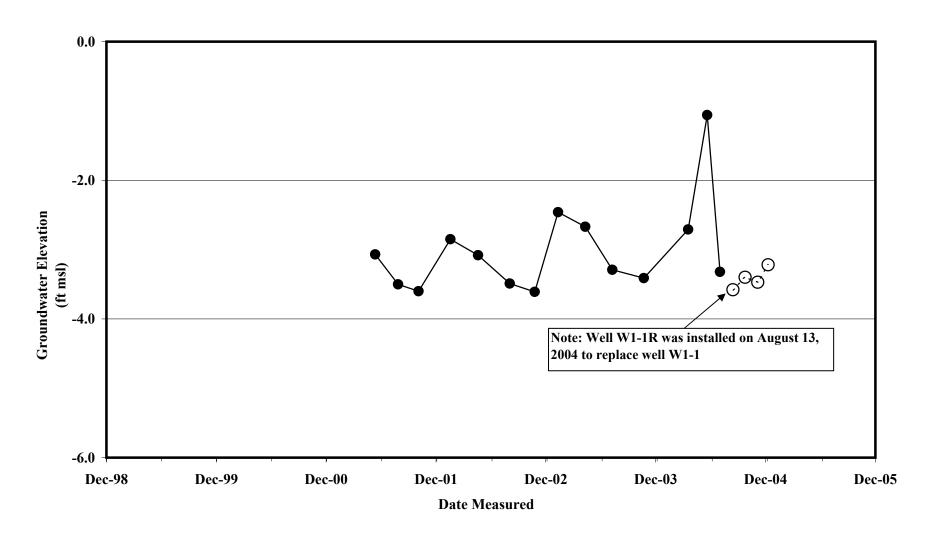


FIGURE D-2
GROUNDWATER HYDROGRAPH, WELL W1-5

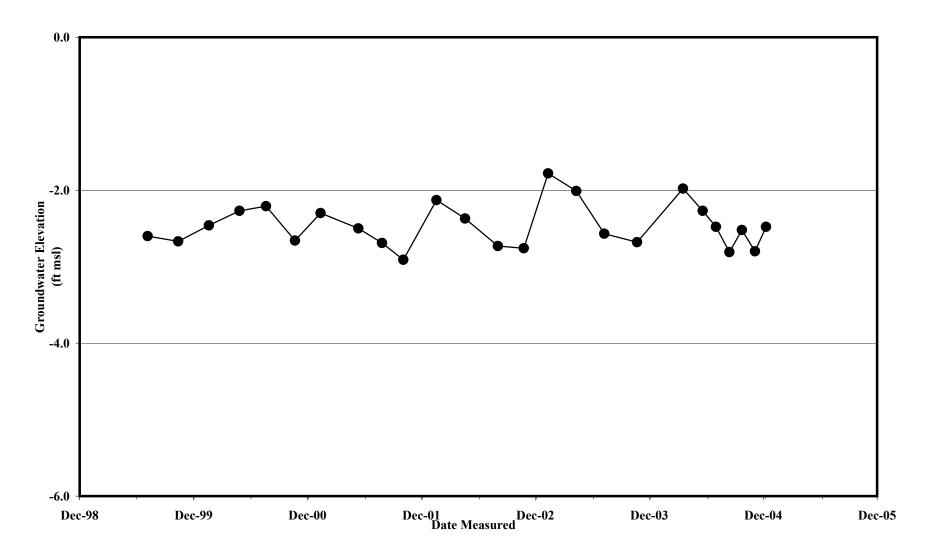


FIGURE D-3
GROUNDWATER HYDROGRAPH, WELL W1-6

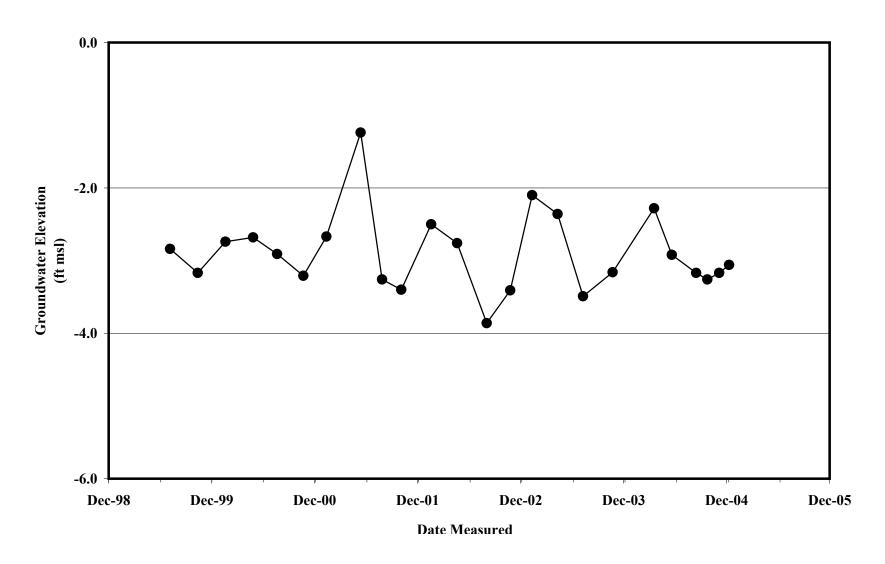


FIGURE D-4
GROUNDWATER HYDROGRAPH, WELL W1-7

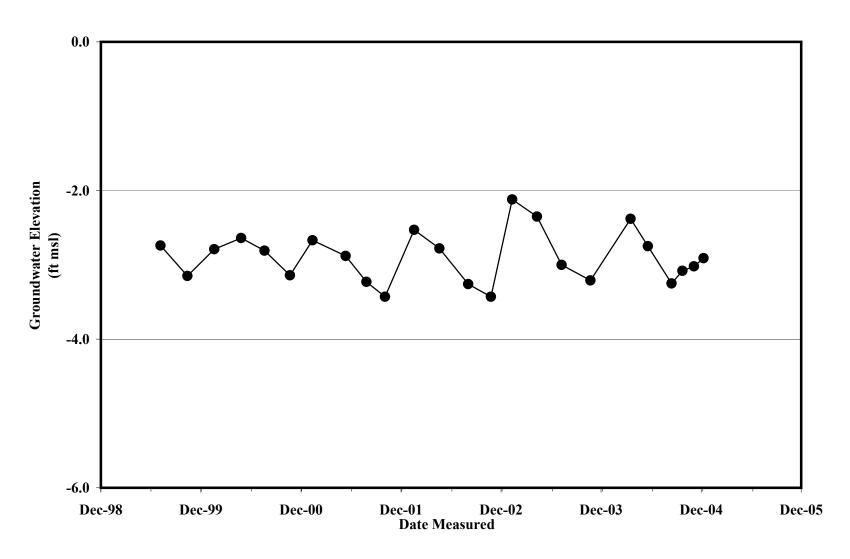


FIGURE D-5
GROUNDWATER HYDROGRAPH, WELL W1-8

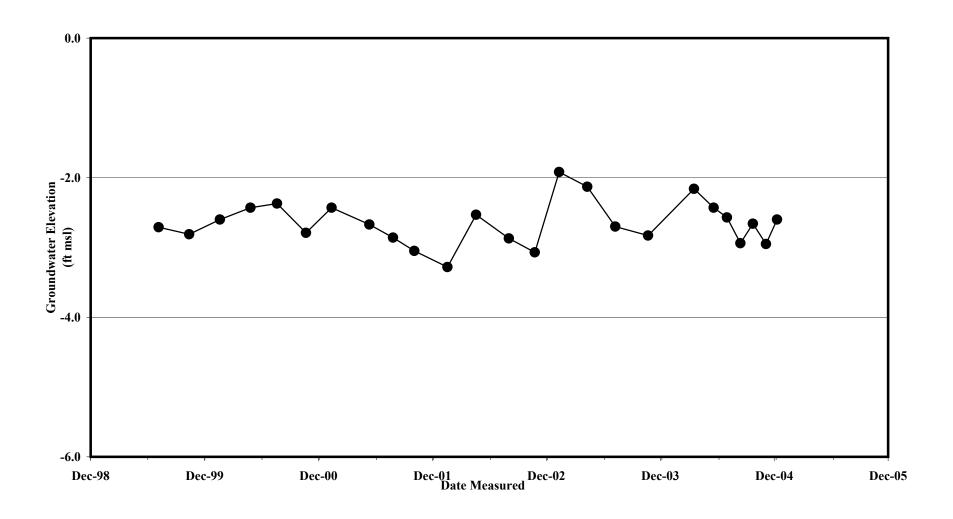


FIGURE D-6
GROUNDWATER HYDROGRAPHS, WELLS W1-12 AND W1-12R

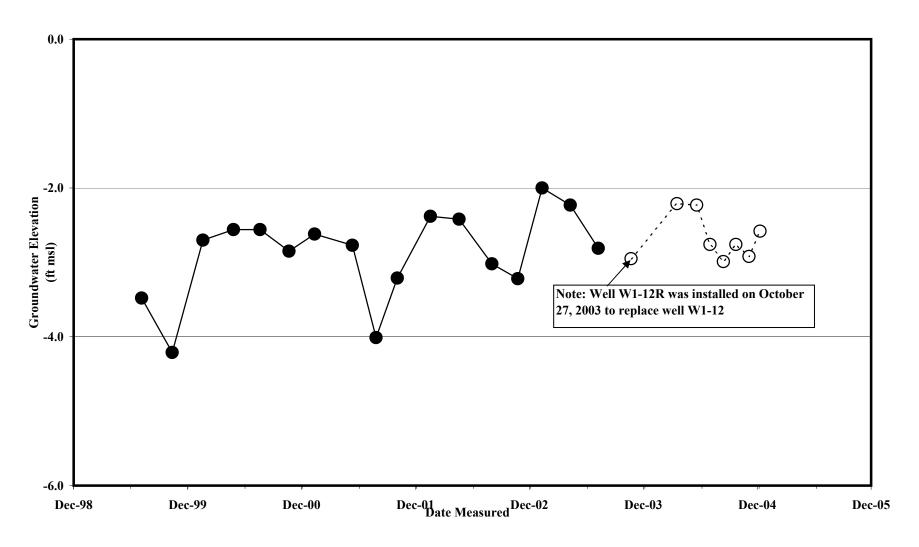


FIGURE D-7
GROUNDWATER HYDROGRAPH, WELL W1-14

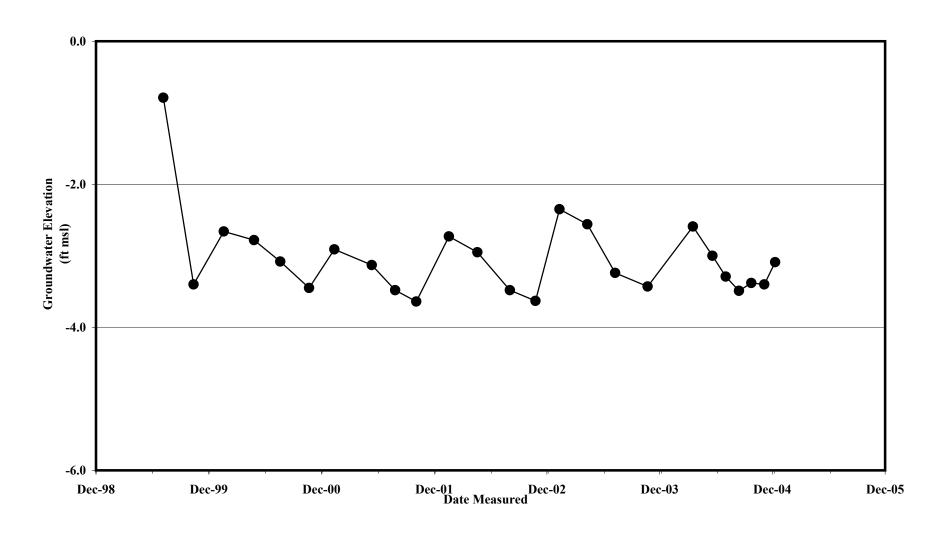


FIGURE D-8
GROUNDWATER HYDROGRAPH, WELL W1-15

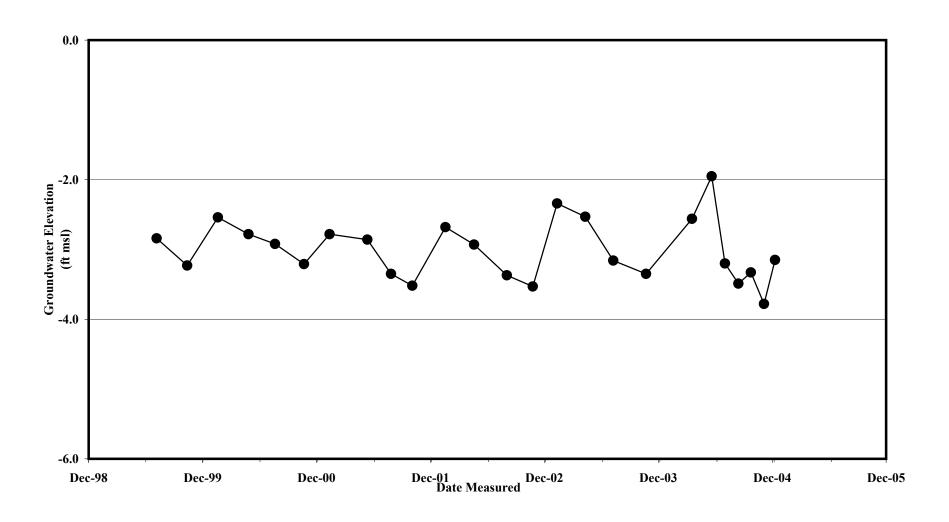


FIGURE D-9
GROUNDWATER HYDROGRAPH, WELL W1-16

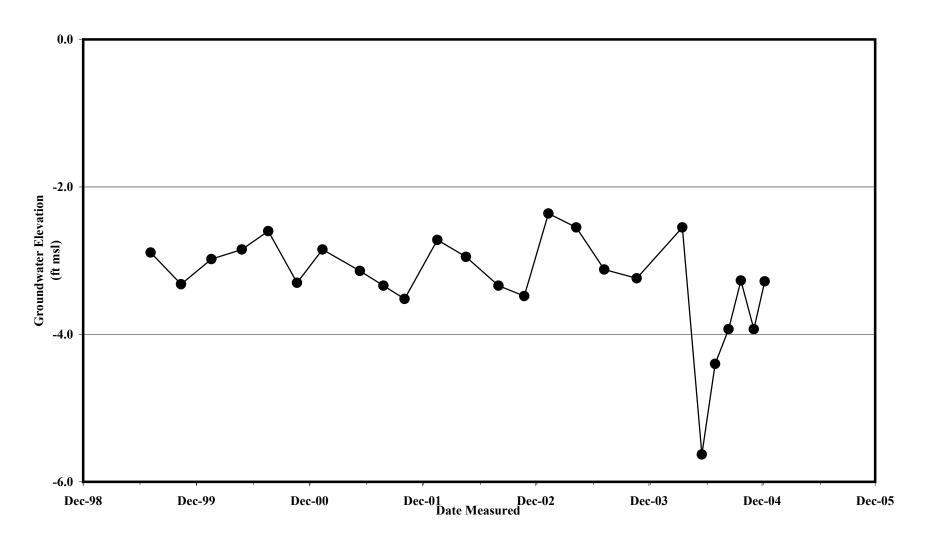


FIGURE D-10

GROUNDWATER HYDROGRAPH, WELL W1-19

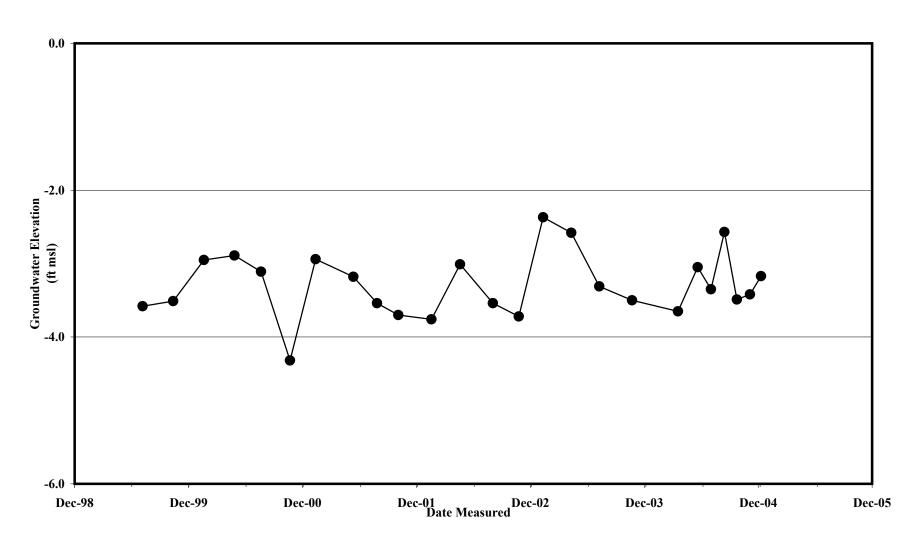


FIGURE D-11
GROUNDWATER HYDROGRAPH, WELL W1-20

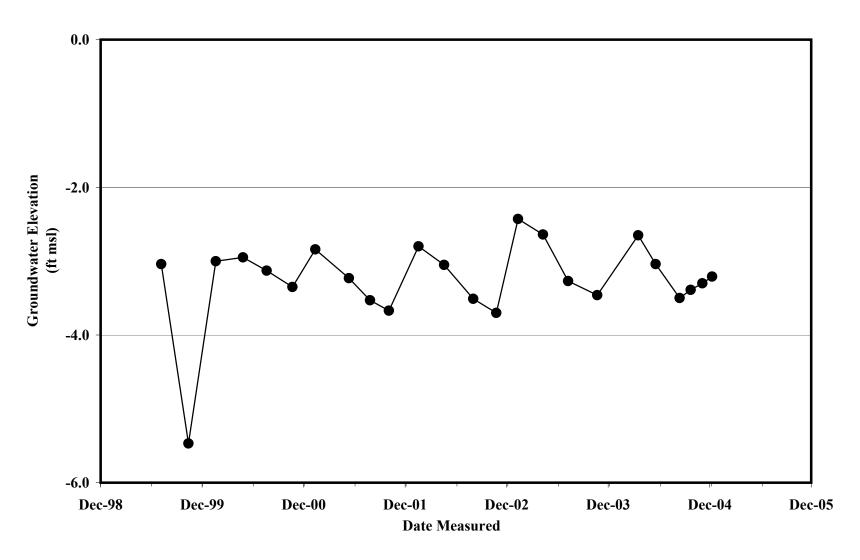


FIGURE D-12
GROUNDWATER HYDROGRAPH, WELL W1-22

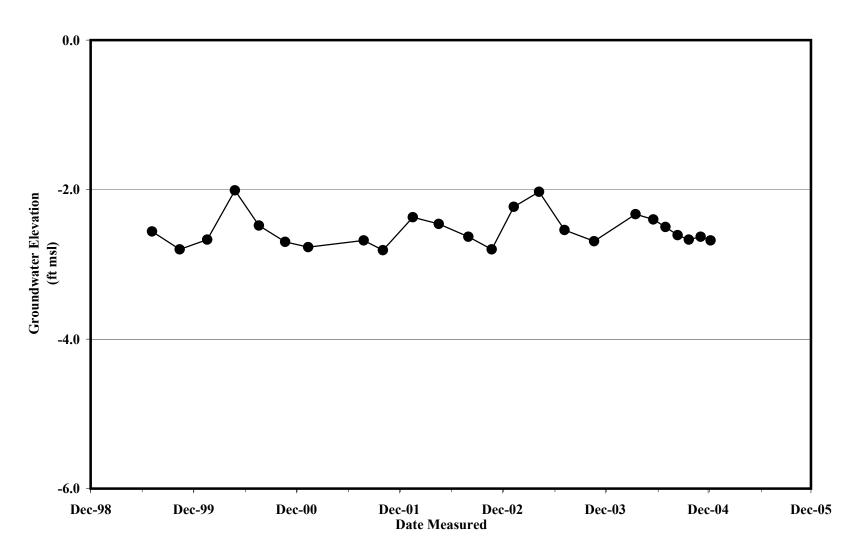
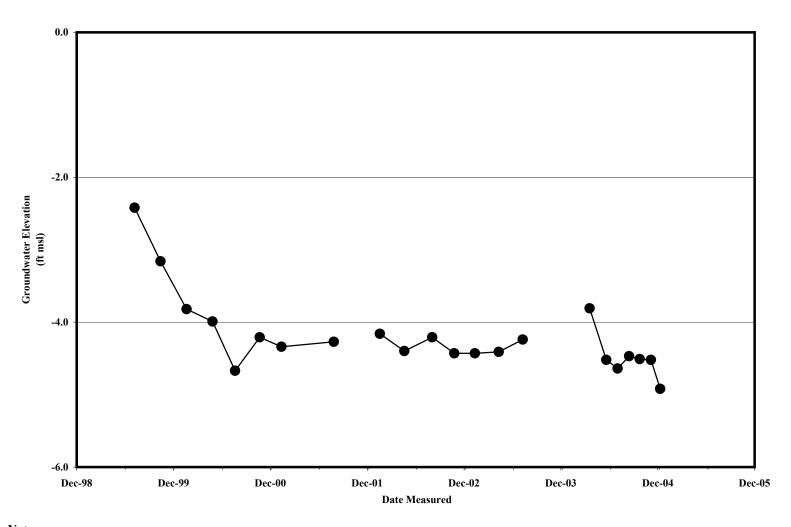


FIGURE D-13
GROUNDWATER HYDROGRAPH, WELL W1-23



Notes:

1. Breaks in hydrograph line indicate that the collection trench was dry during the respective time period.

FIGURE D-14
GROUNDWATER HYDROGRAPH, WELL W1-24

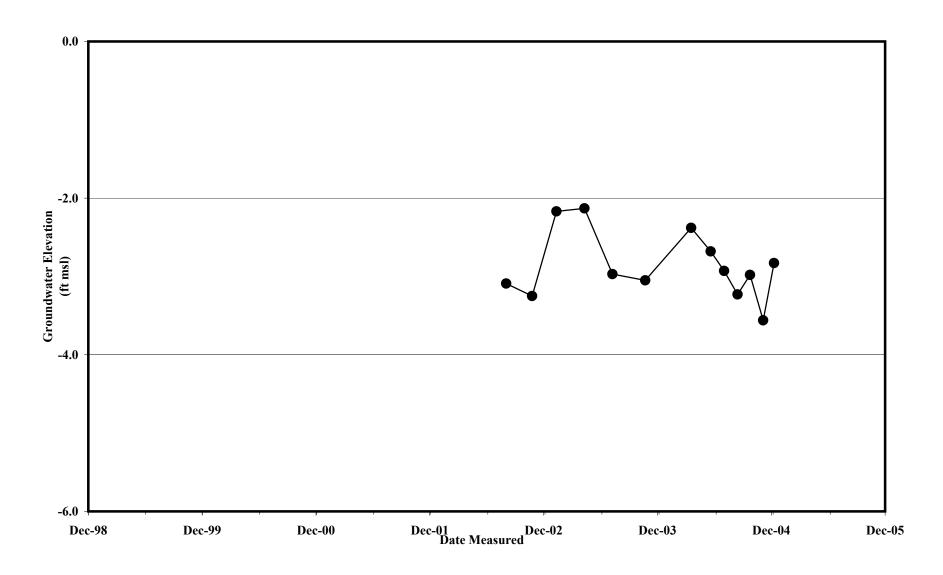


FIGURE D-15
GROUNDWATER HYDROGRAPH, PIEZOMETER PZ1-18

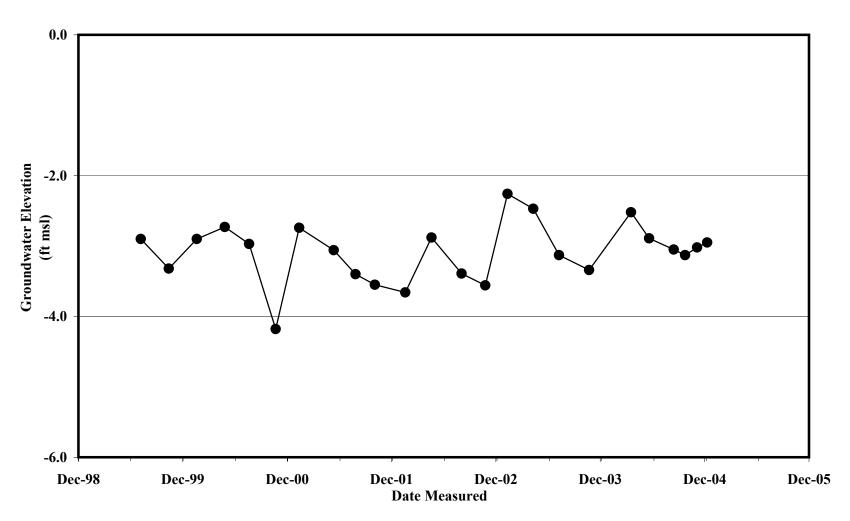


FIGURE D-16
GROUNDWATER HYDROGRAPH, WELL PZ1-21

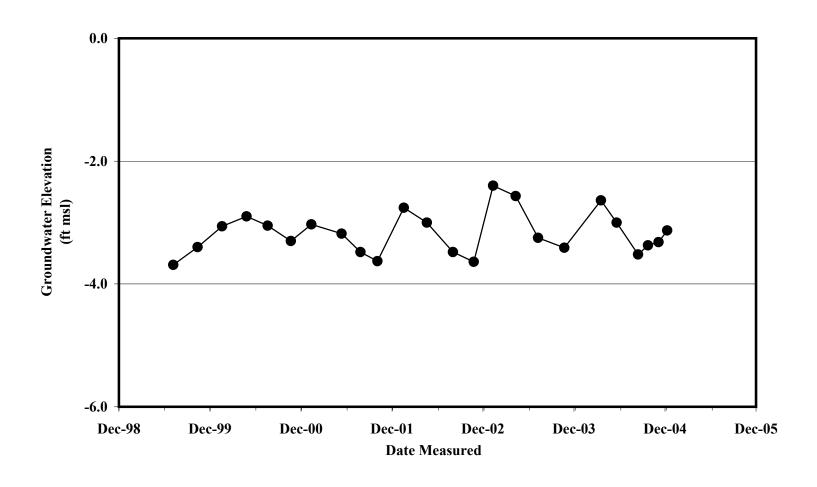


FIGURE D-17
GROUNDWATER HYDROGRAPHS, PIEZOMETER PZ1-18 AND WELL W1-19

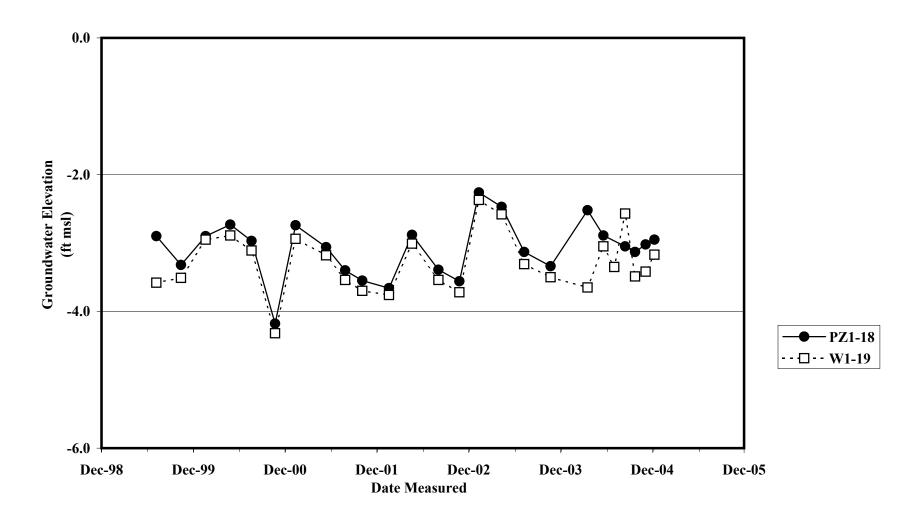
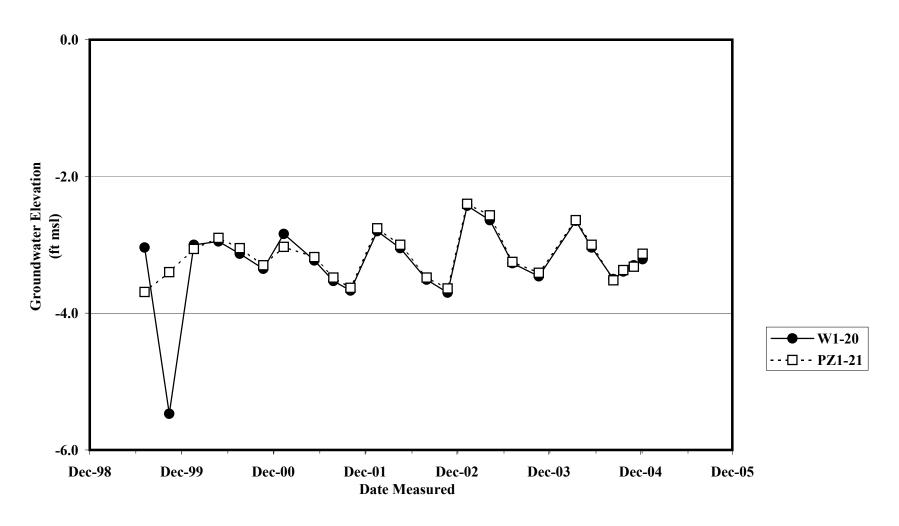


FIGURE D-18

GROUNDWATER HYDROGRAPHS, PIEZOMETER PZ1-21 AND WELL W1-20

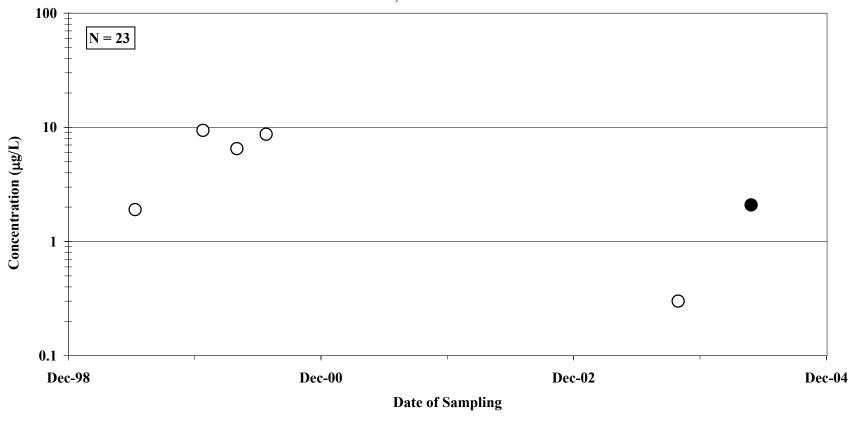


APPENDIX E GROUNDWATER MONITORING POINT DATA GRAPHS

(Provided on CD only)

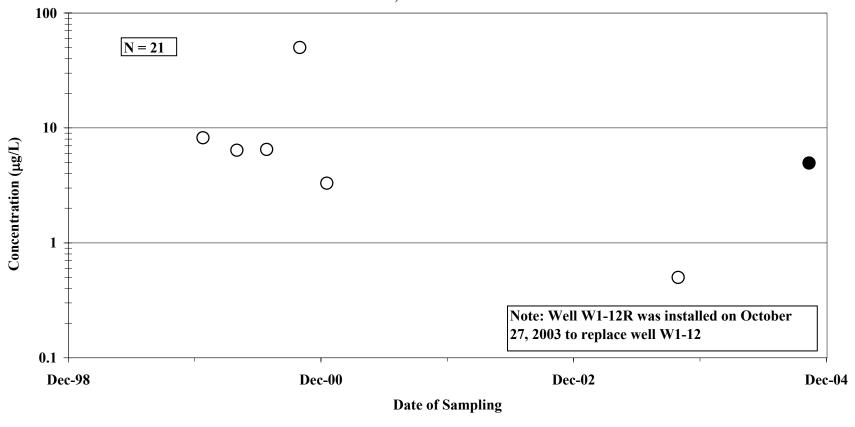
FIGURE E-1

DISSOLVED ANTIMONY CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

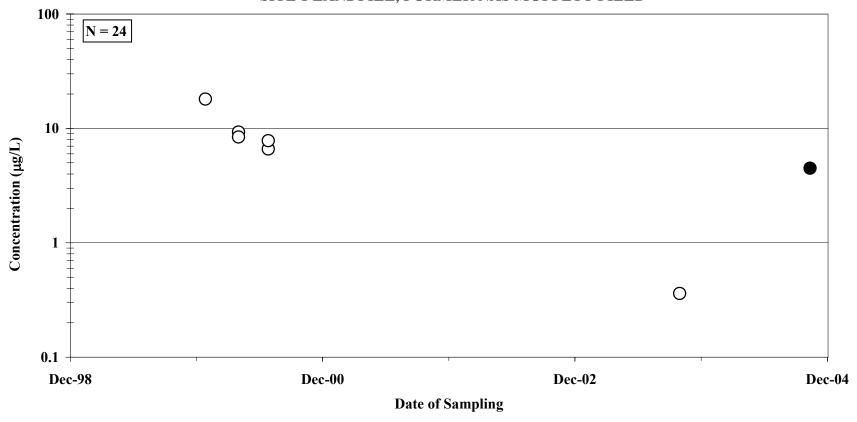
DISSOLVED ANTIMONY CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-3

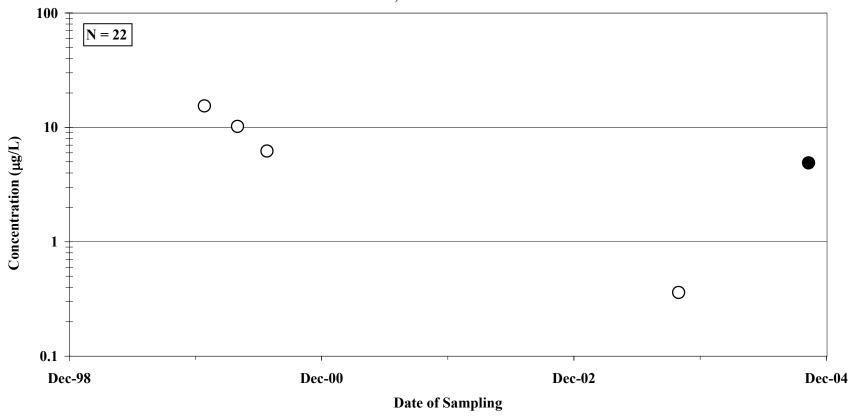
DISSOLVED ANTIMONY CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-4

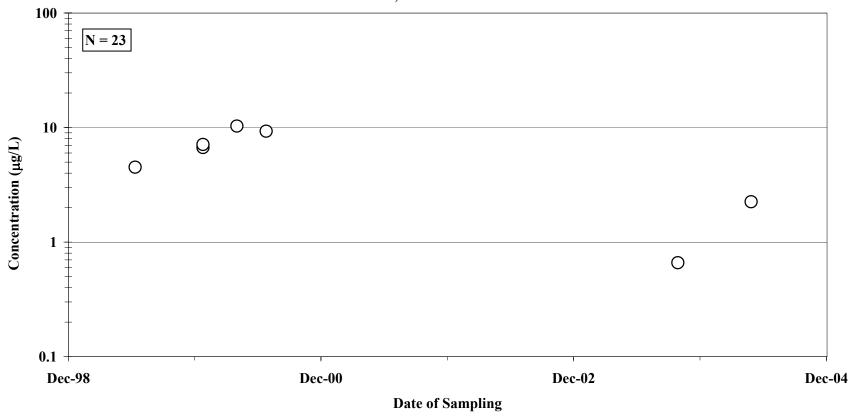
DISSOLVED ANTIMONY CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

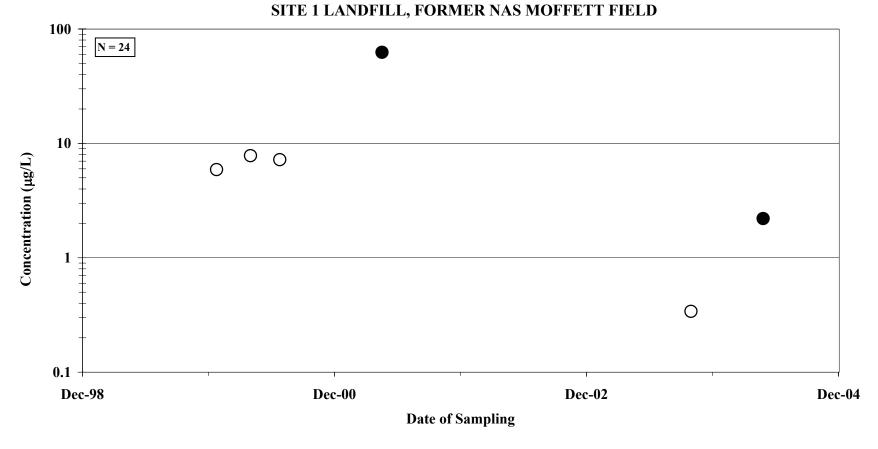
FIGURE E-5

DISSOLVED ANTIMONY CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED ANTIMONY CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19

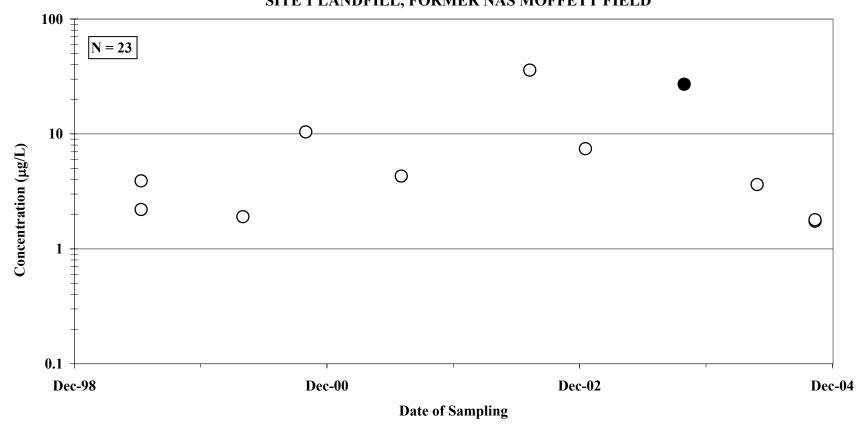


- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-7

DISSOLVED ARSENIC CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5

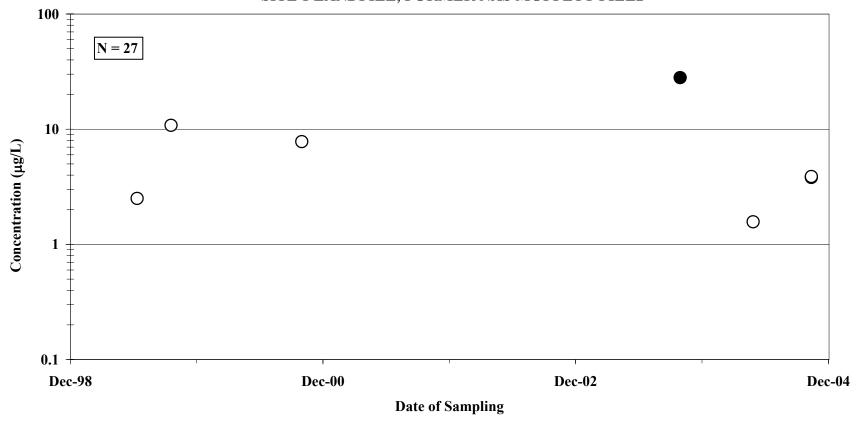
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-8

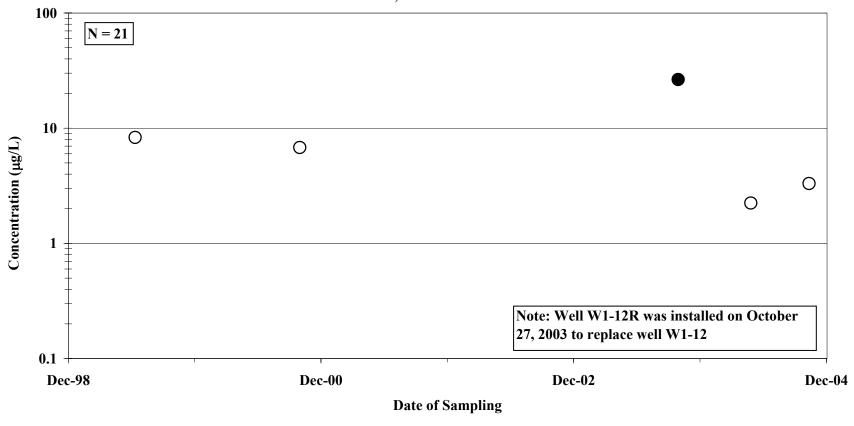
DISSOLVED ARSENIC CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-9

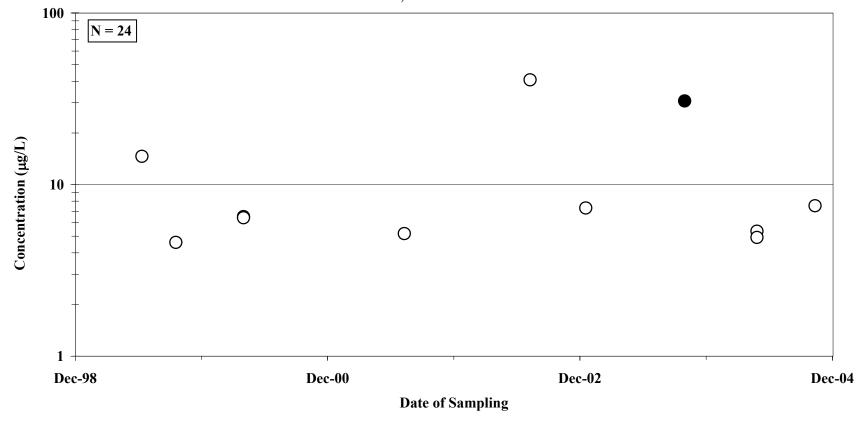
DISSOLVED ARSENIC CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

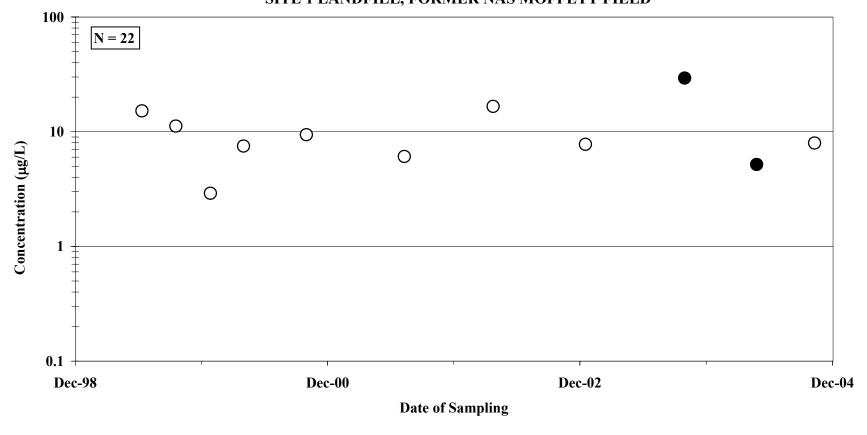
FIGURE E-10

DISSOLVED ARSENIC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

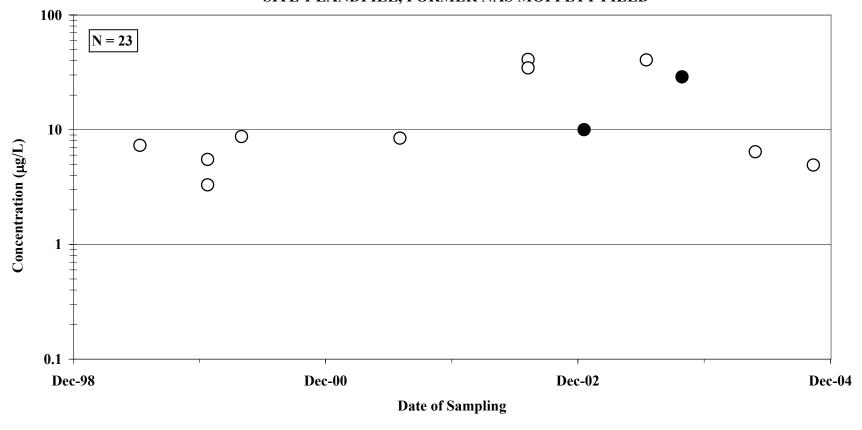
DISSOLVED ARSENIC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

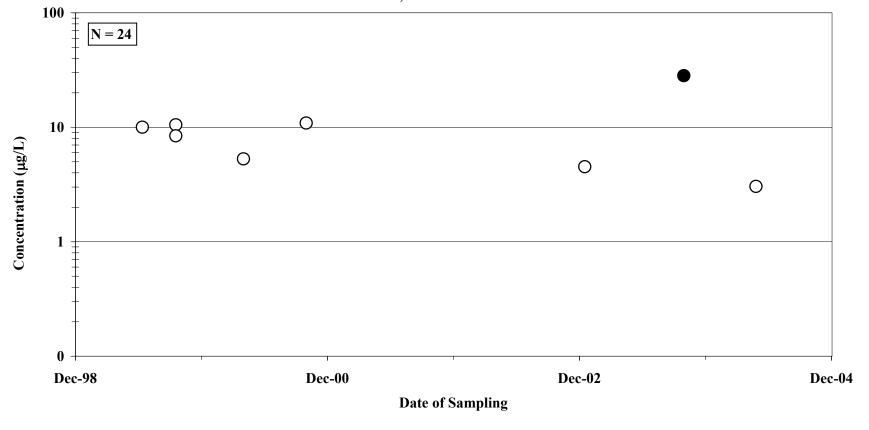
FIGURE E-12

DISSOLVED ARSENIC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

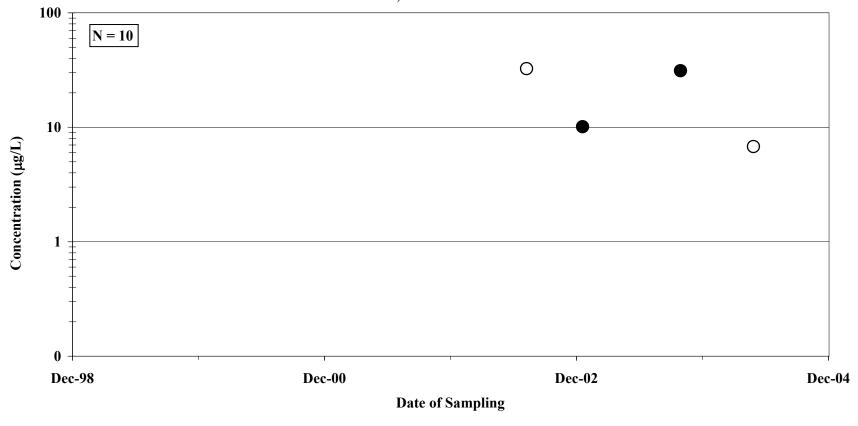
DISSOLVED ARSENIC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-14

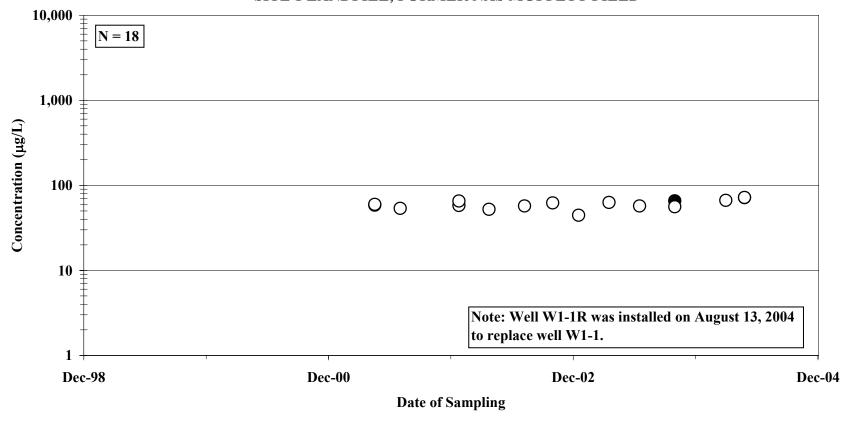
DISSOLVED ARSENIC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-15

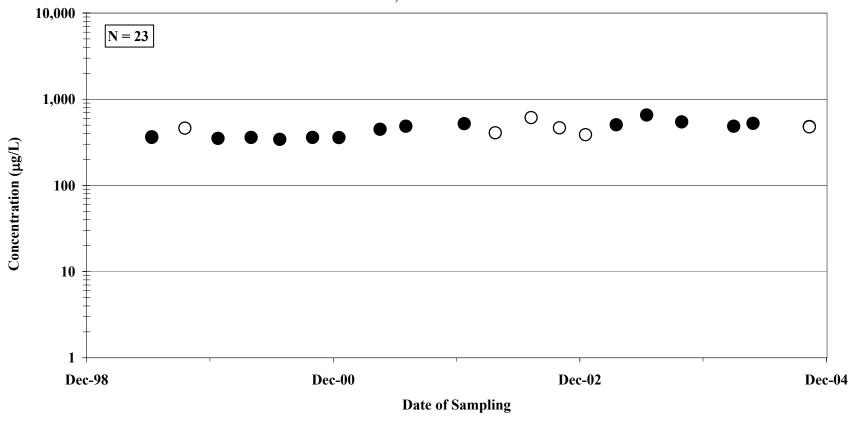
DISSOLVED BARIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-16

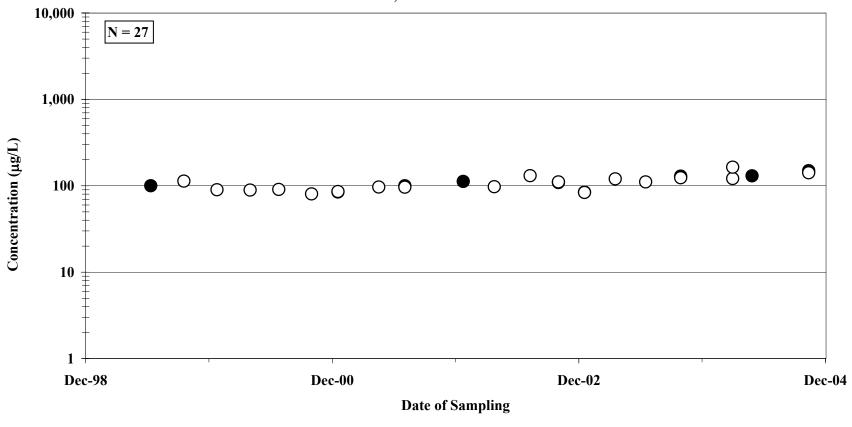
DISSOLVED BARIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-17

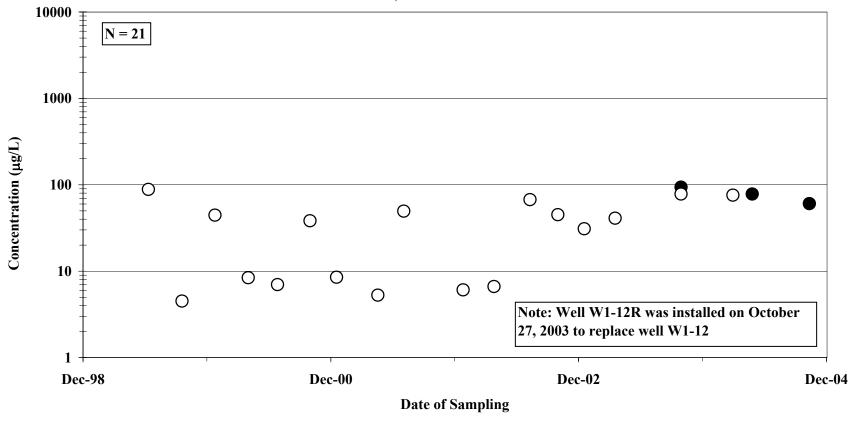
DISSOLVED BARIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

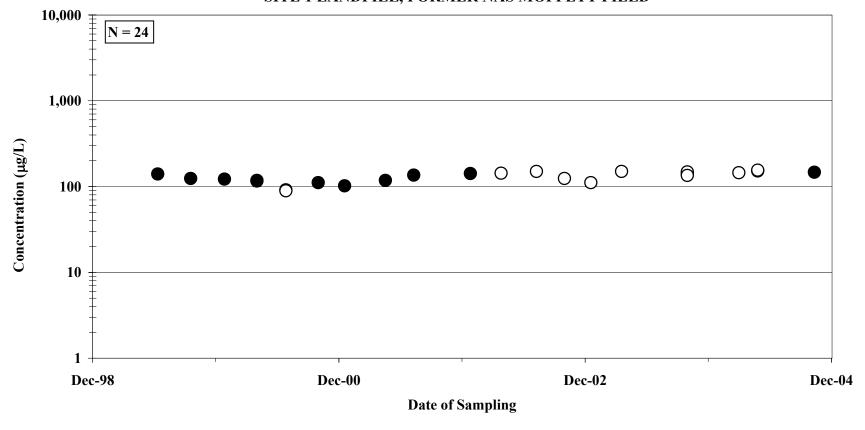
FIGURE E-18

DISSOLVED BARIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

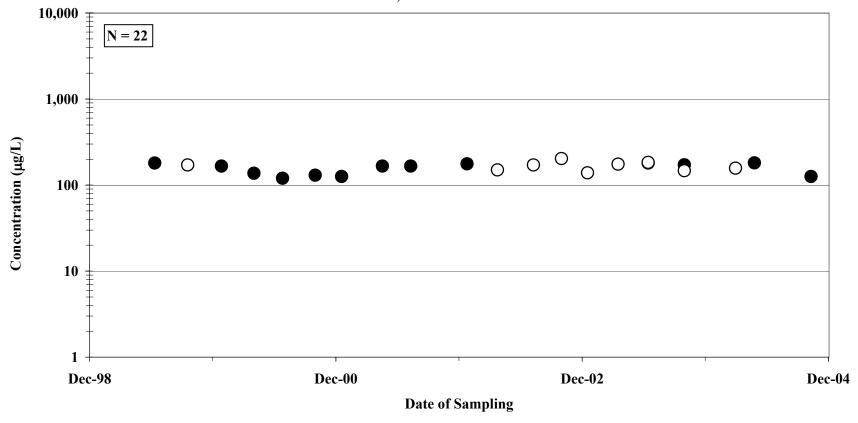
DISSOLVED BARIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

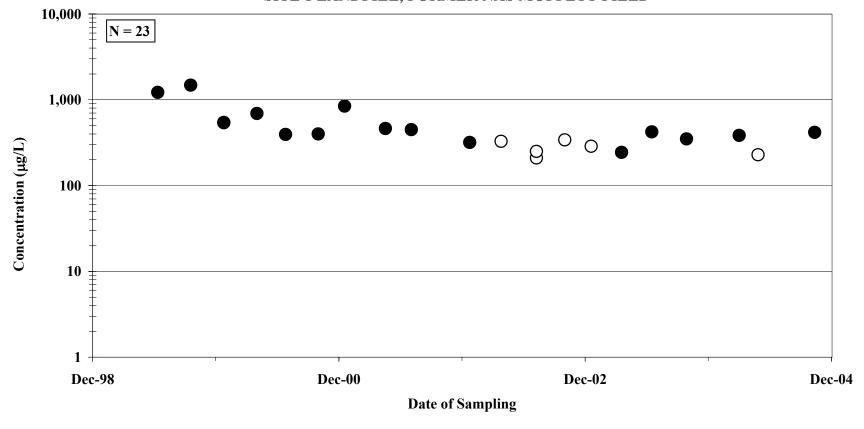
FIGURE E-20

DISSOLVED BARIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



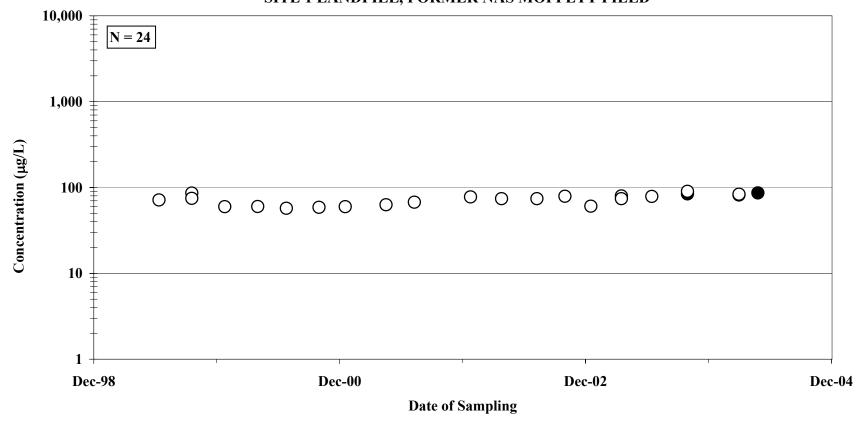
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED BARIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



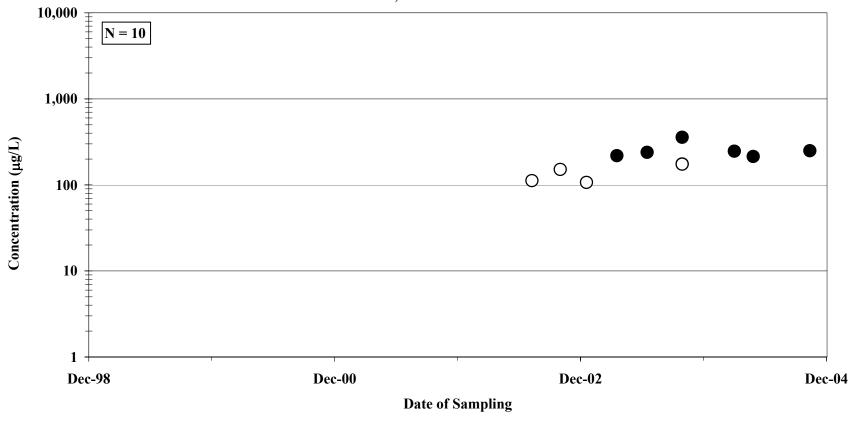
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED BARIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

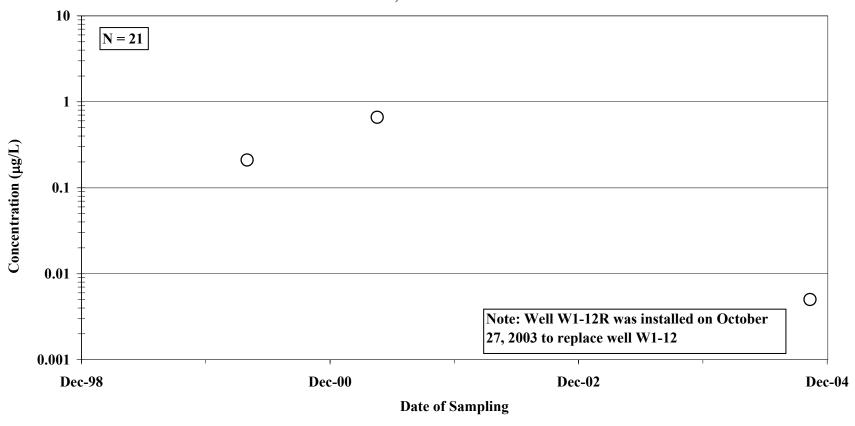
DISSOLVED BARIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-24

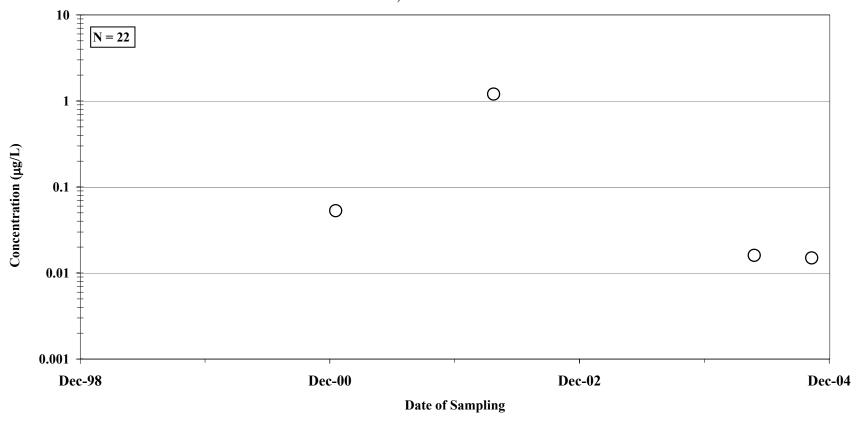
DISSOLVED BERYLLIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-25

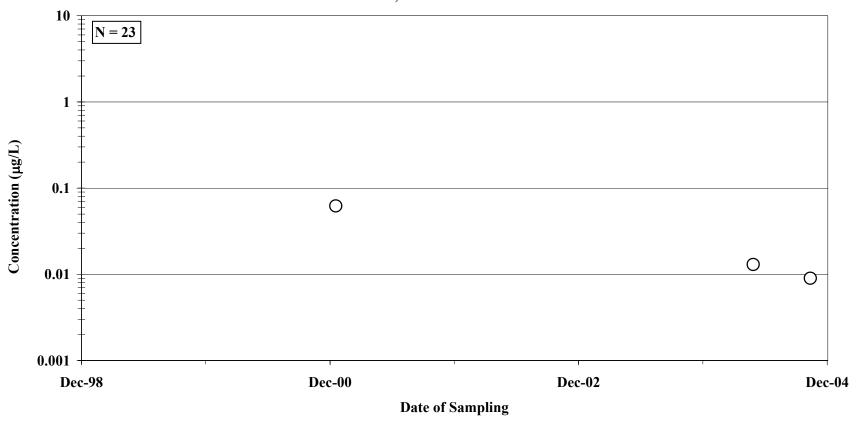
DISSOLVED BERYLLIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-26

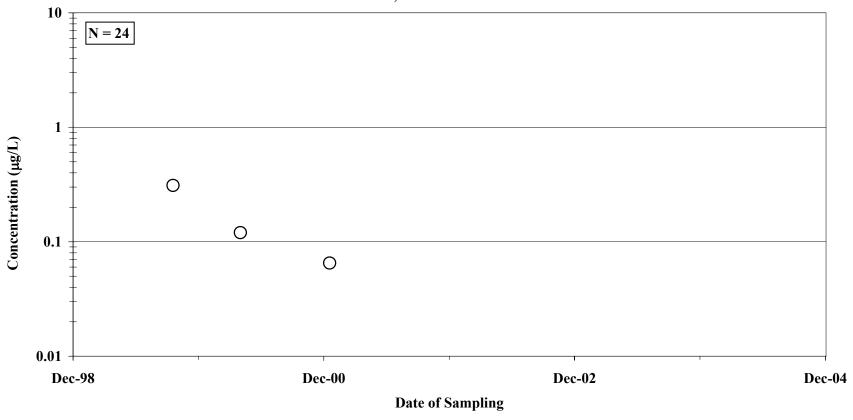
DISSOLVED BERYLLIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-27

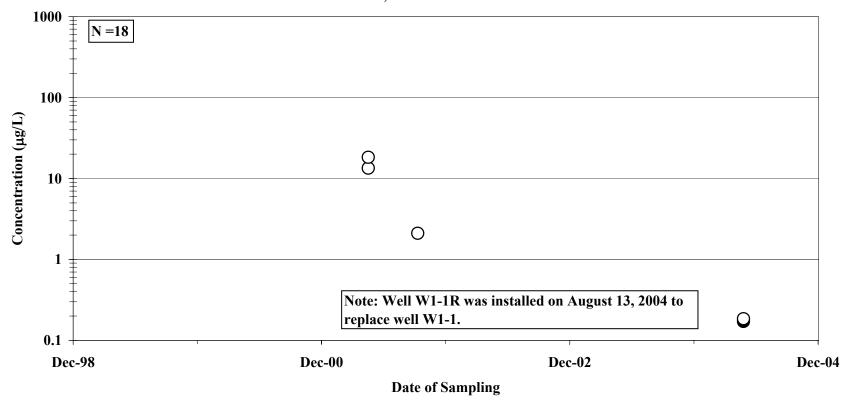
DISSOLVED BERYLLIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-28

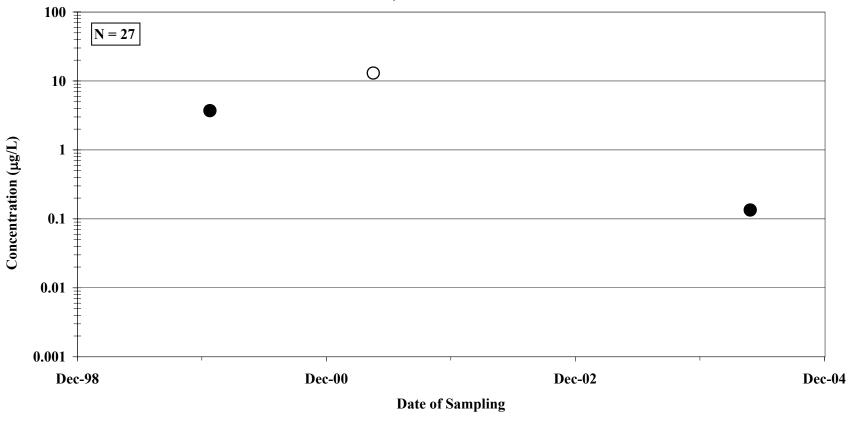
DISSOLVED CADMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-29

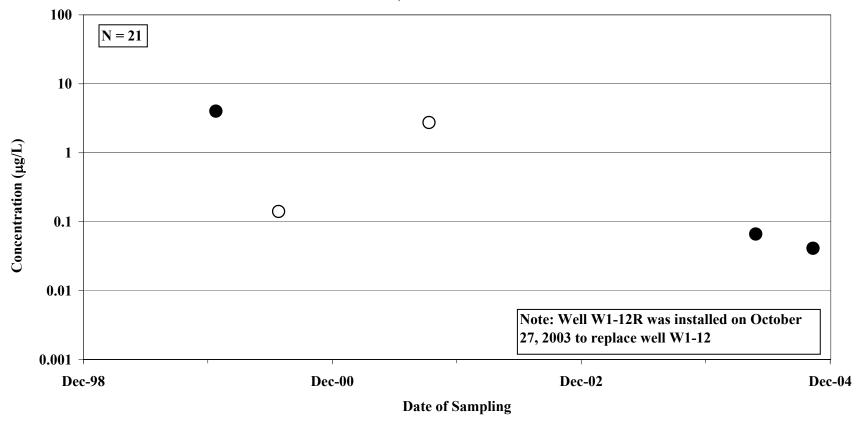
DISSOLVED CADMIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-30

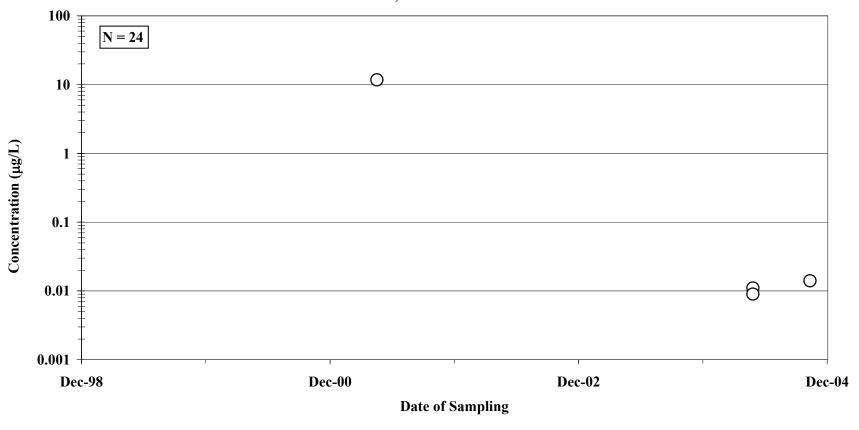
DISSOLVED CADMIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-31

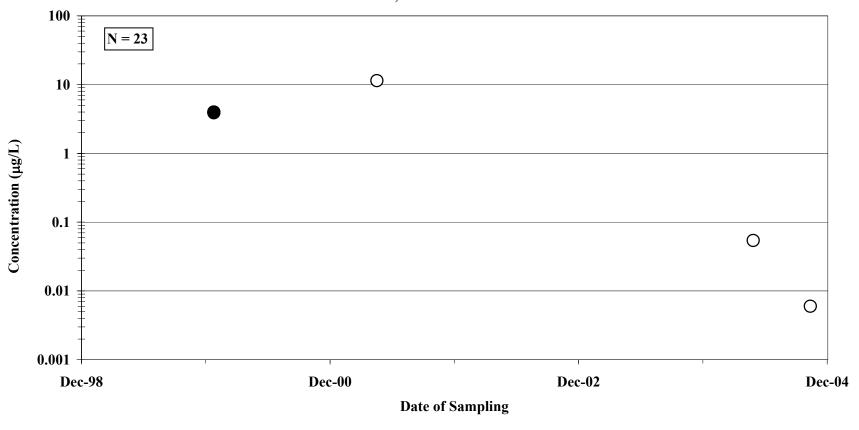
DISSOLVED CADMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-32

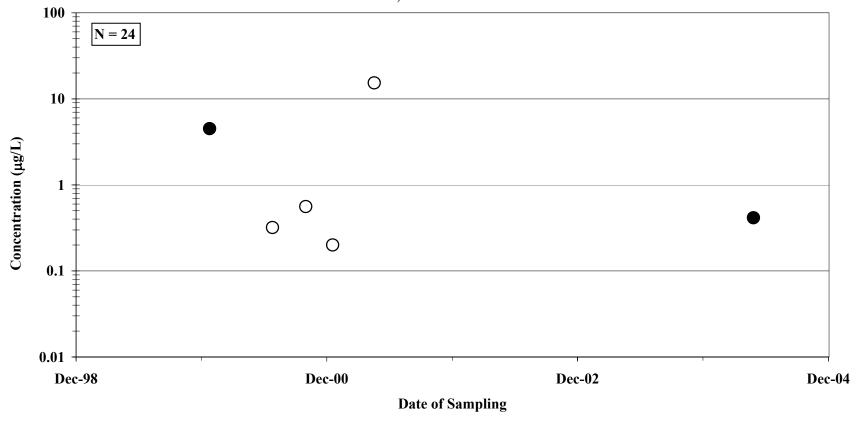
DISSOLVED CADMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

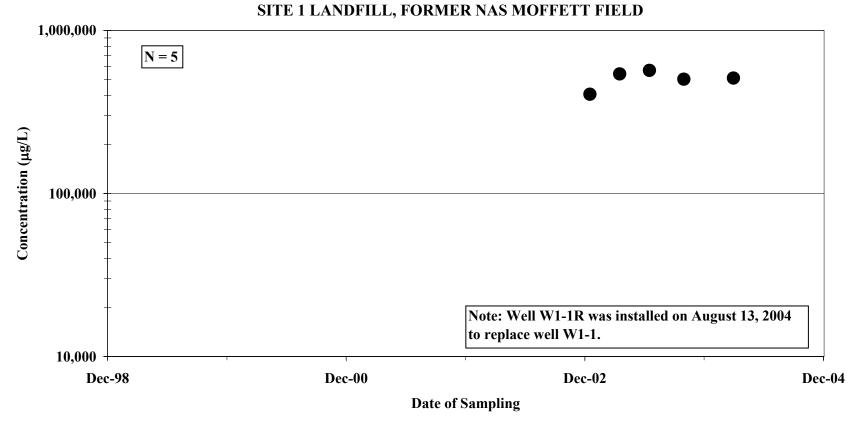
FIGURE E-33

DISSOLVED CADMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

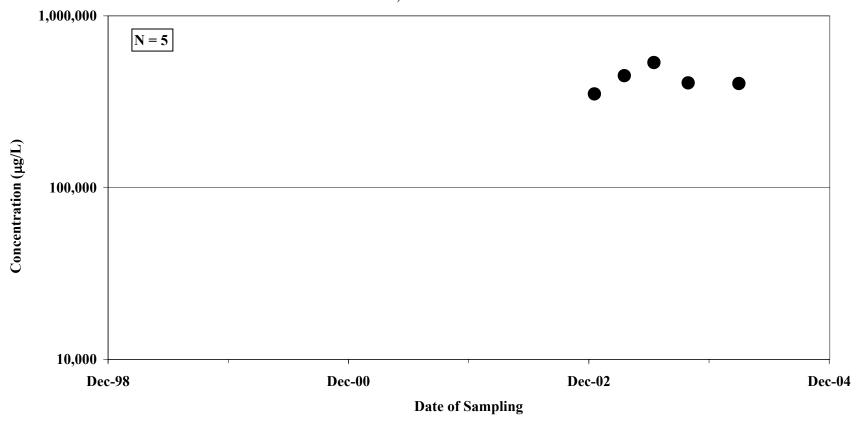
FIGURE E-34
DISSOLVED CALCIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-35

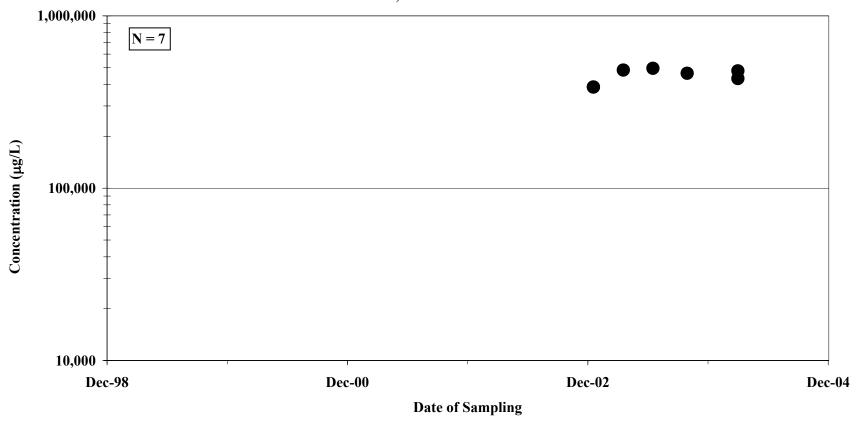
DISSOLVED CALCIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-36

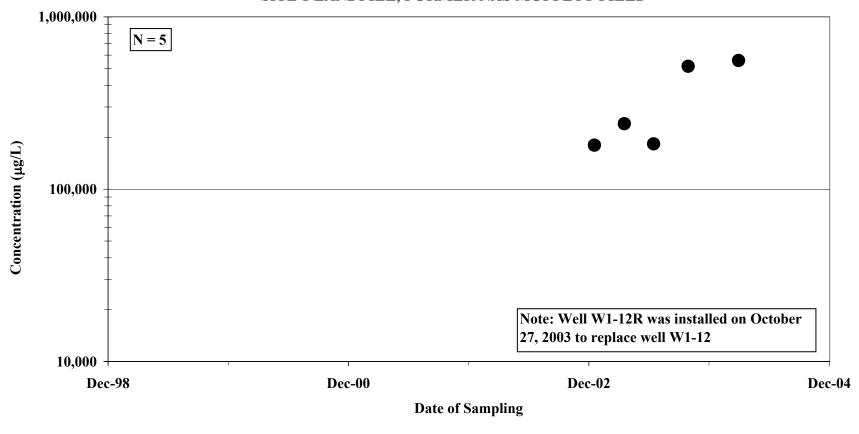
DISSOLVED CALCIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-37

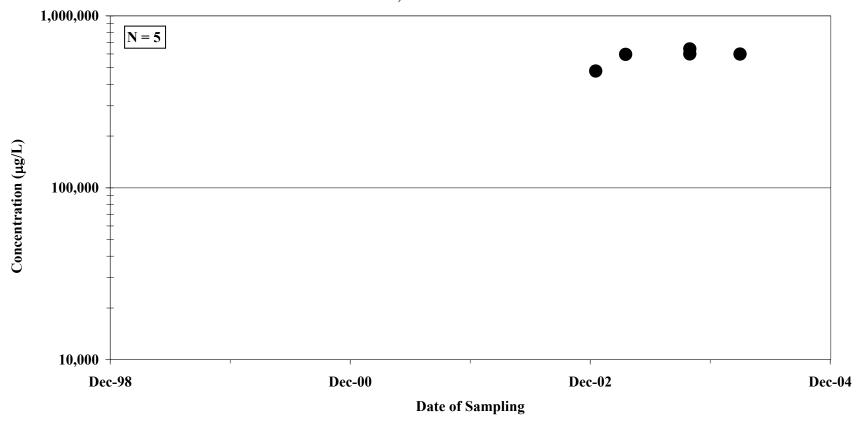
DISSOLVED CALCIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-38

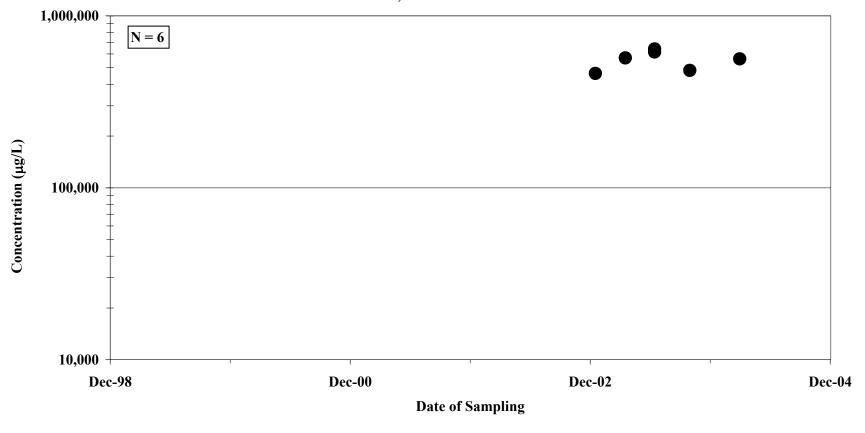
DISSOLVED CALCIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-39

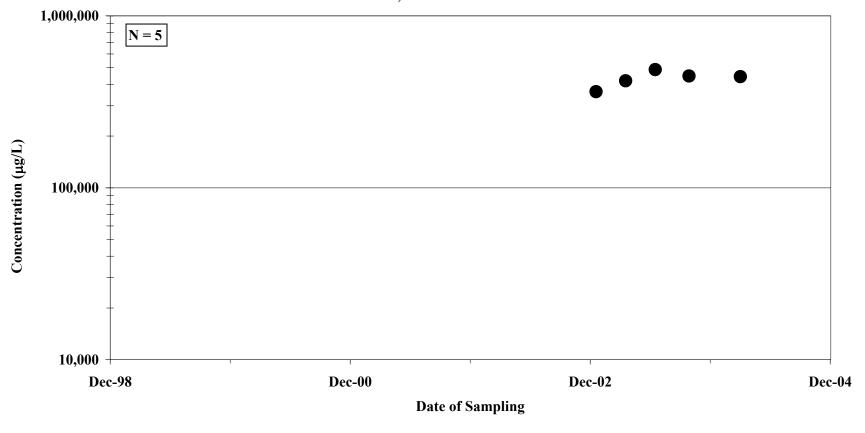
DISSOLVED CALCIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-40

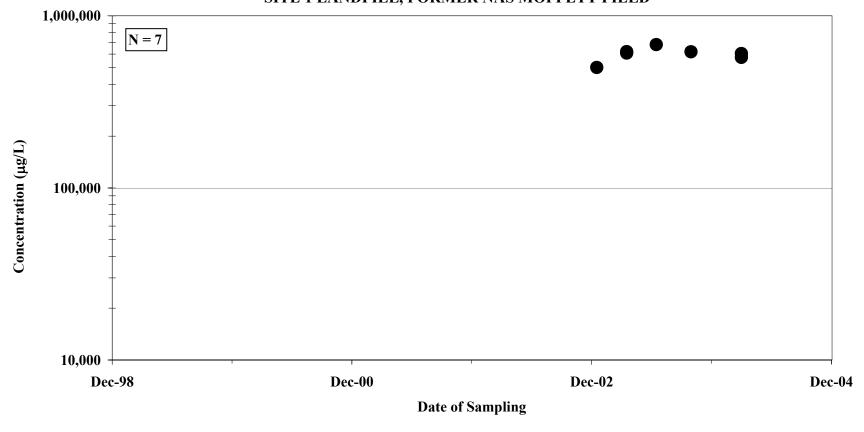
DISSOLVED CALCIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED CALCIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD

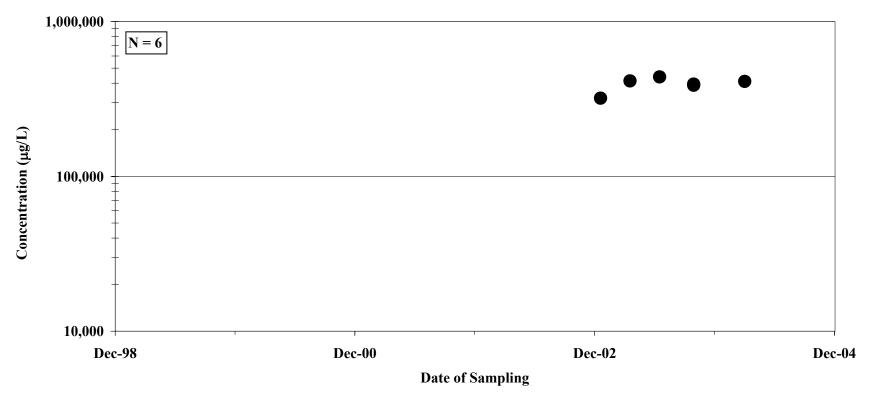
FIGURE E-41



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-42

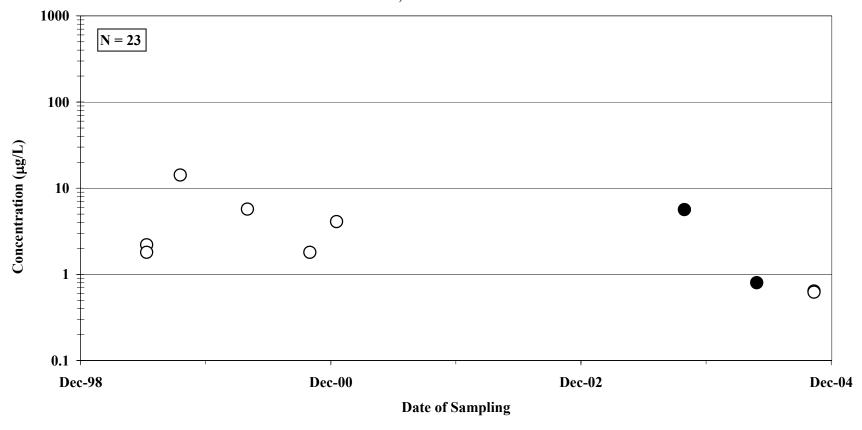
DISSOLVED CALCIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-43

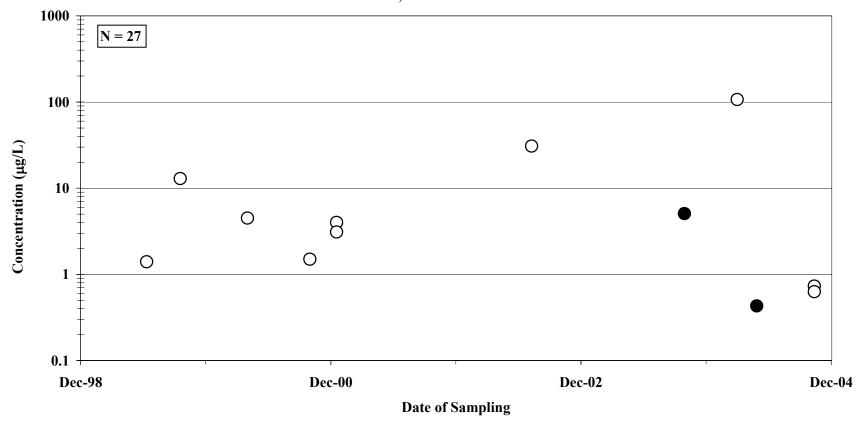
DISSOLVED CHROMIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-44

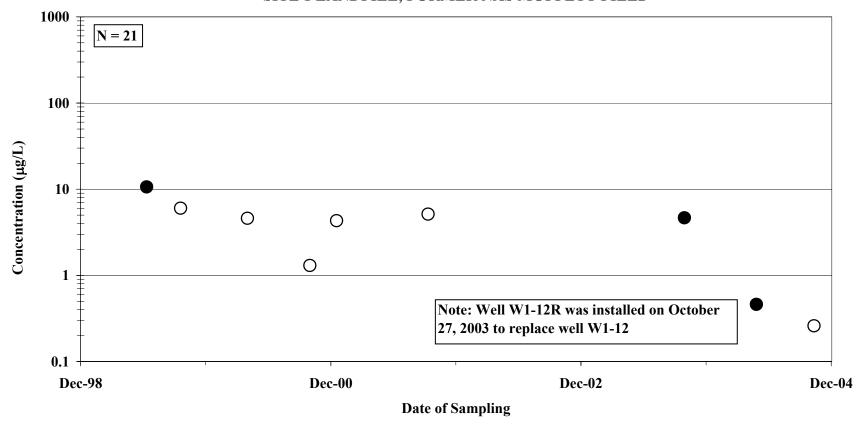
DISSOLVED CHROMIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED CHROMIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD

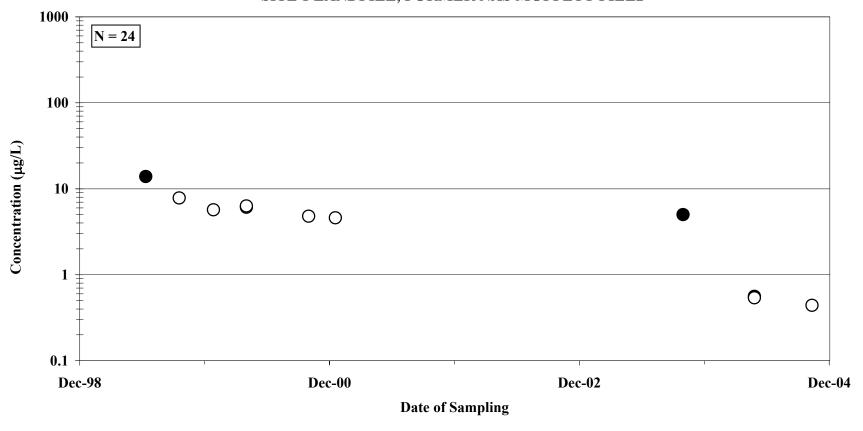
FIGURE E-45



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-46

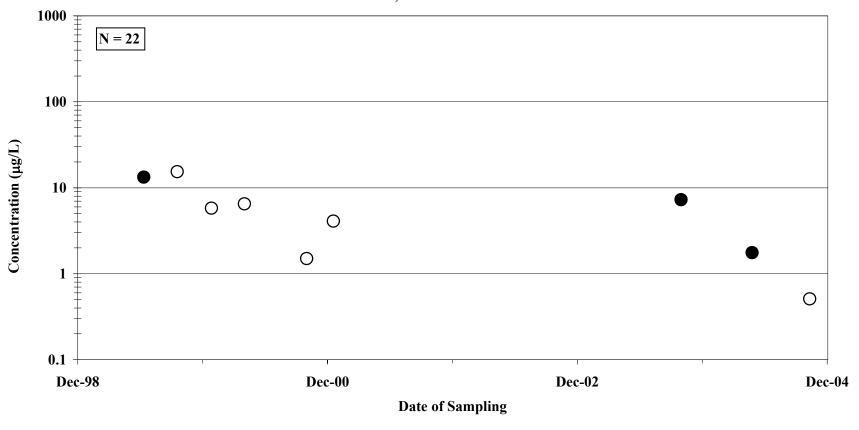
DISSOLVED CHROMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-47

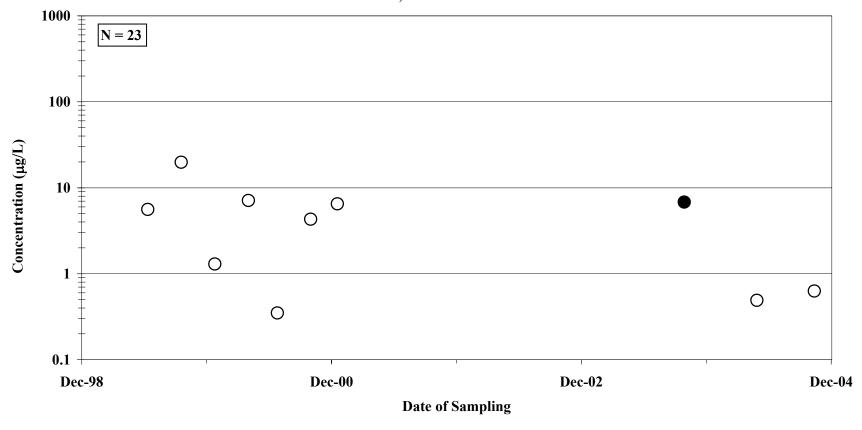
DISSOLVED CHROMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-48

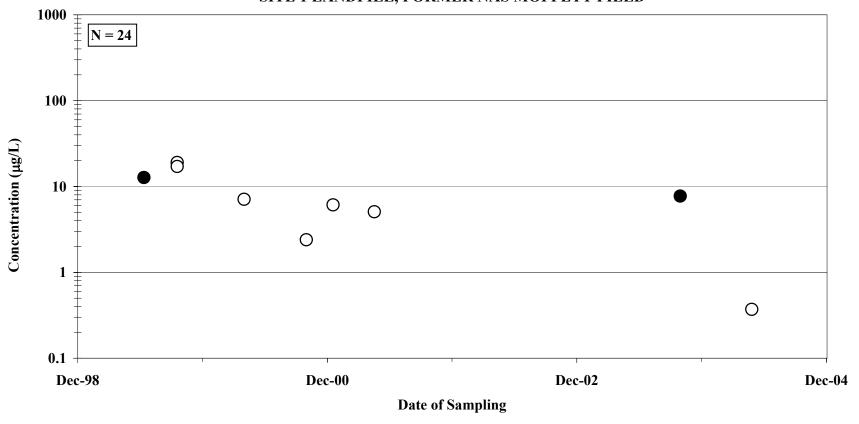
DISSOLVED CHROMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-49

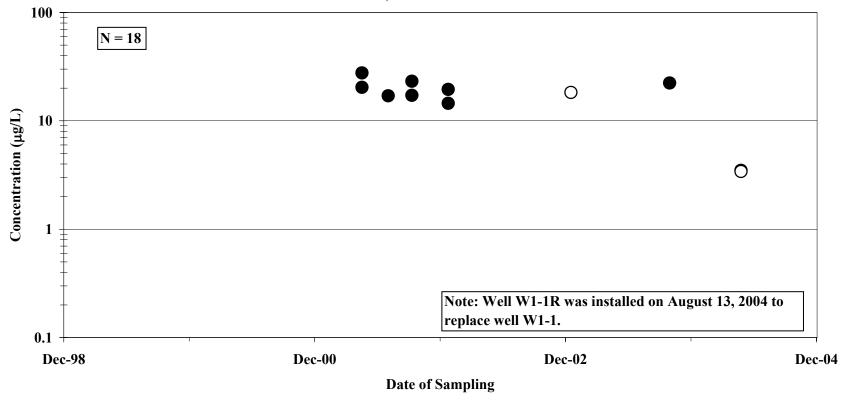
DISSOLVED CHROMIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-50

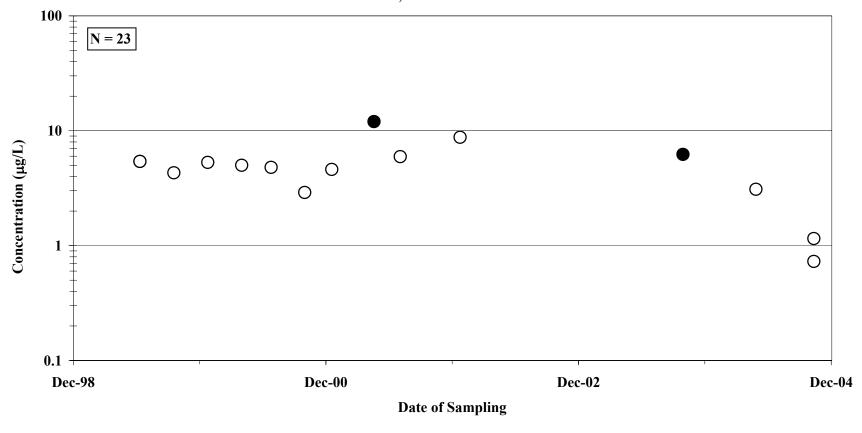
DISSOLVED COBALT CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-51

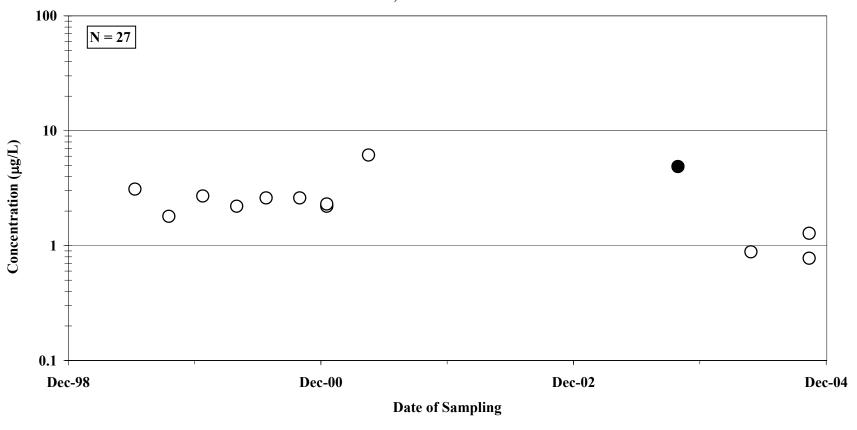
DISSOLVED COBALT CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-52

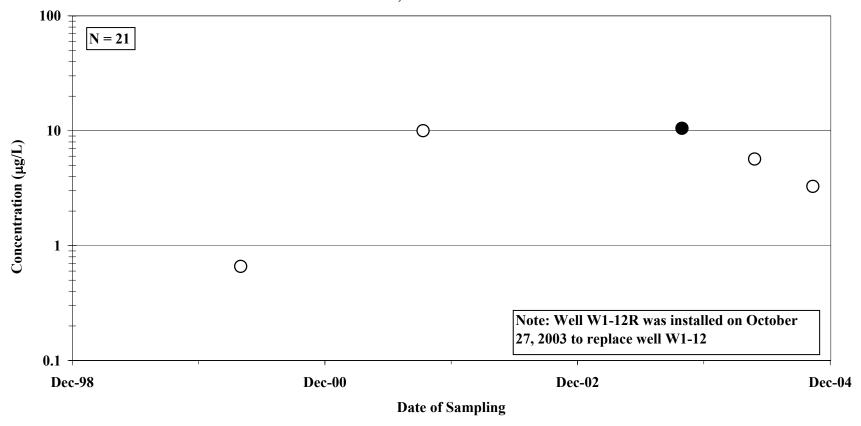
DISSOLVED COBALT CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-53

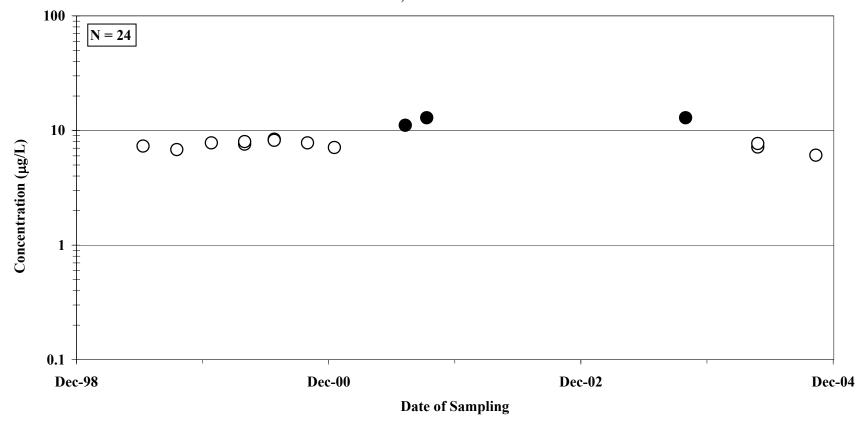
DISSOLVED COBALT CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED COBALT CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD

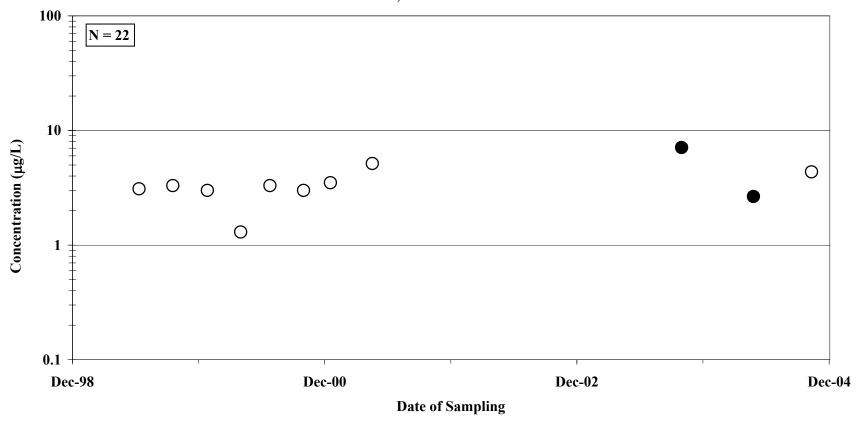
FIGURE E-54



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-55

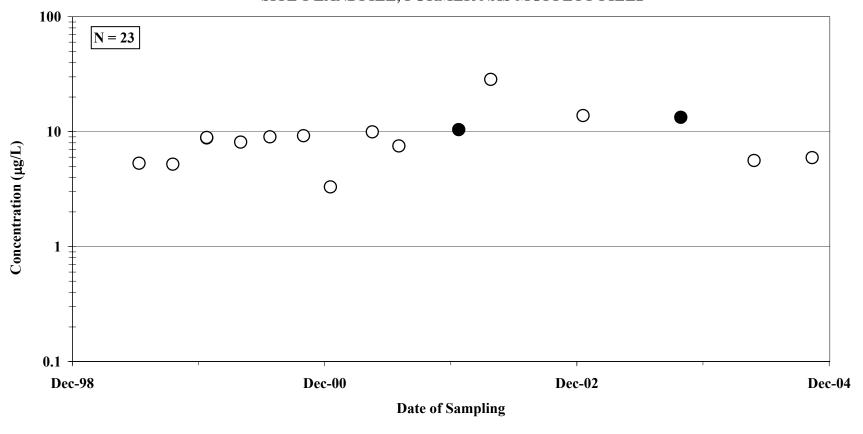
DISSOLVED COBALT CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-56

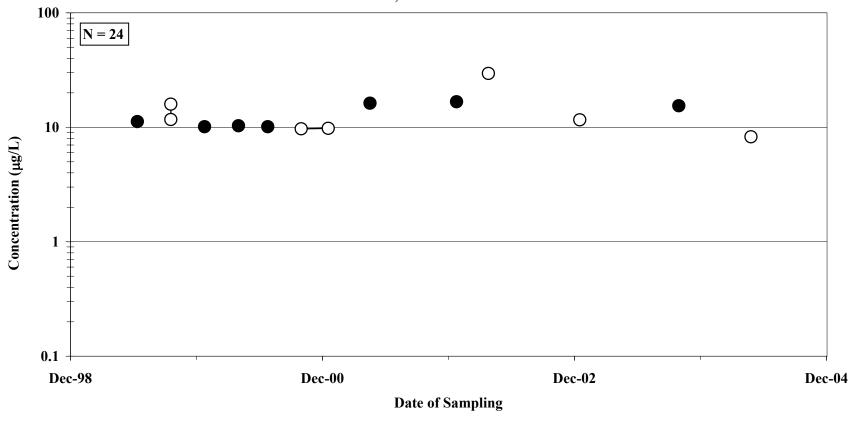
DISSOLVED COBALT CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-57

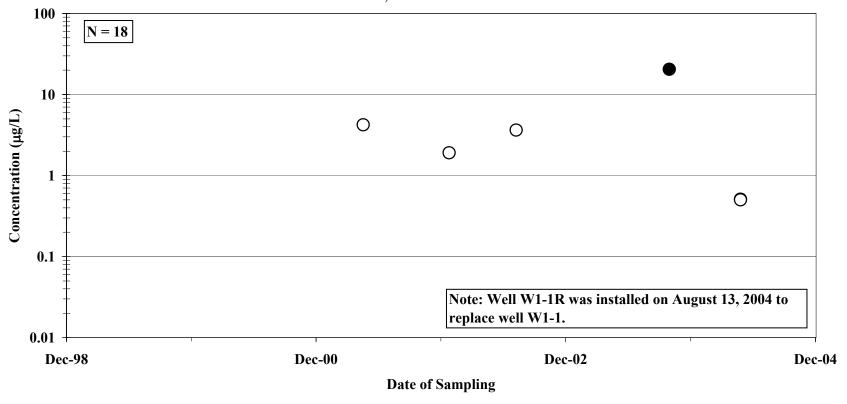
DISSOLVED COBALT CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

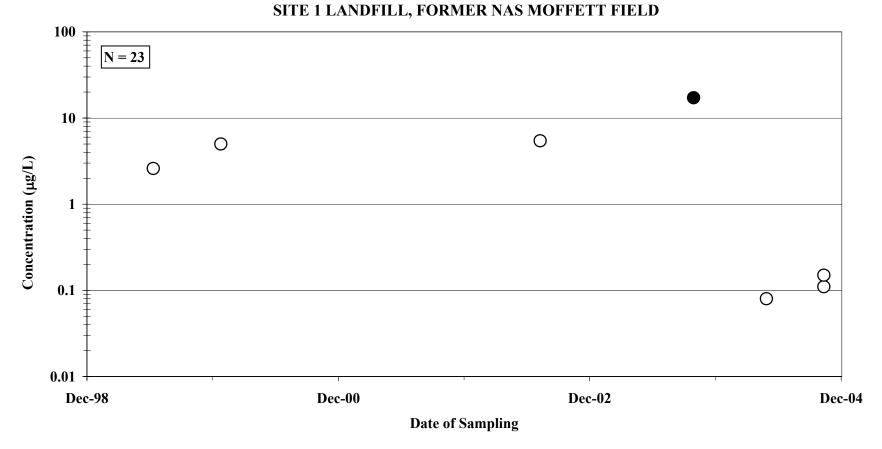
FIGURE E-58

DISSOLVED COPPER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

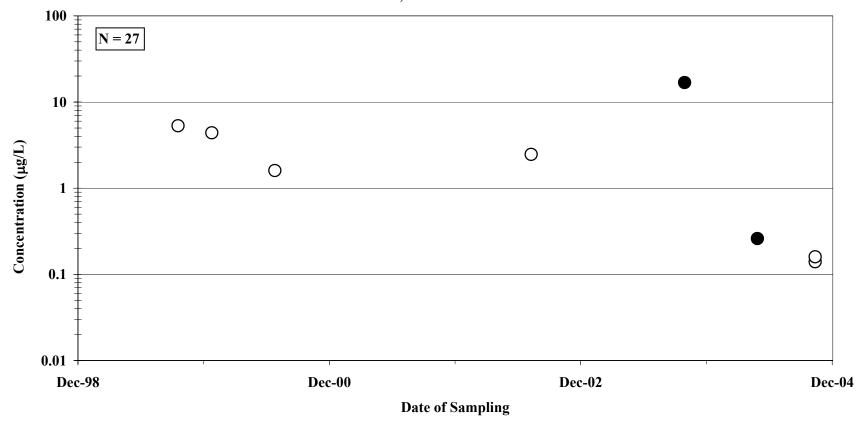
FIGURE E-59
DISSOLVED COPPER CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-60

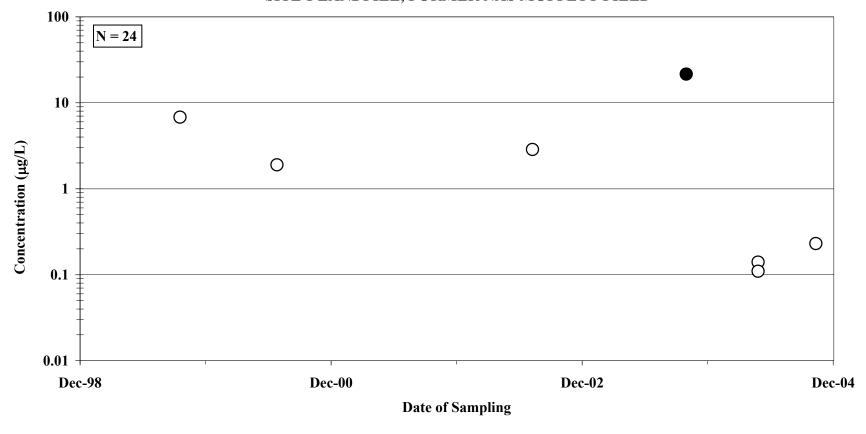
DISSOLVED COPPER CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-61

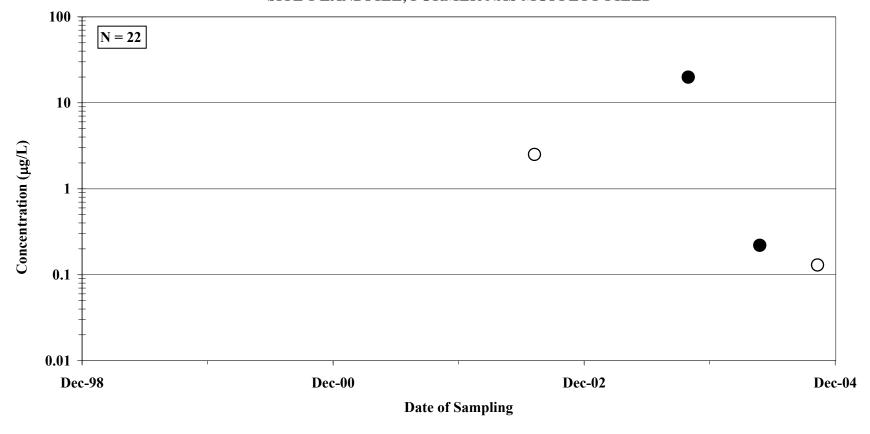
DISSOLVED COPPER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED COPPER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD

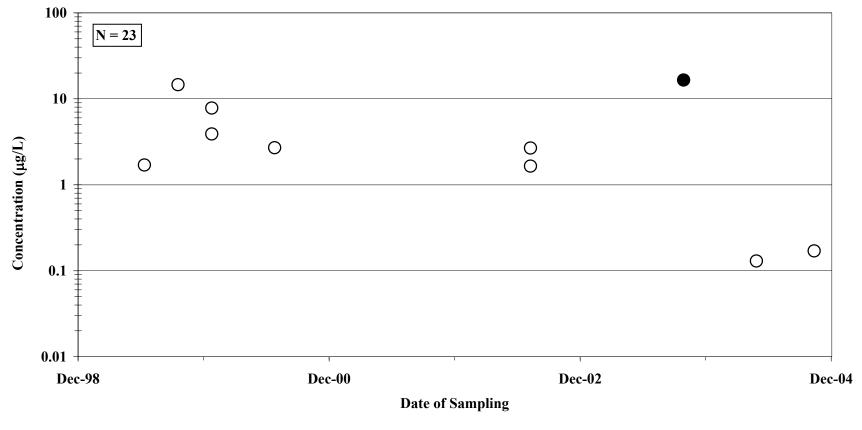
FIGURE E-62



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-63

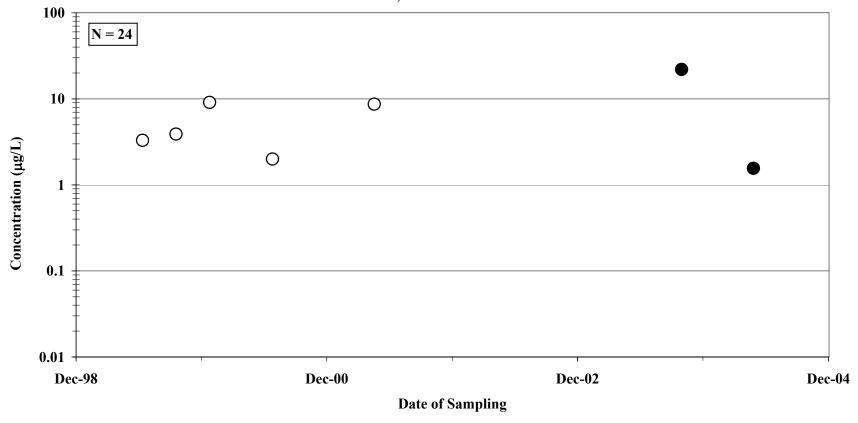
DISSOLVED COPPER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-64

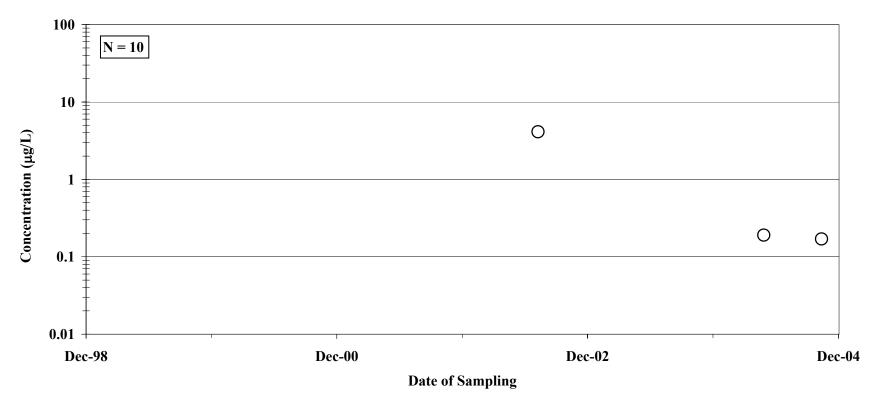
DISSOLVED COPPER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-65

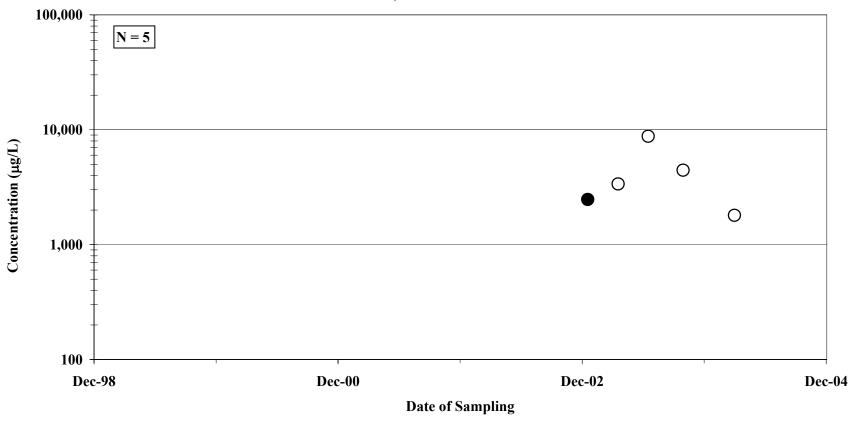
DISSOLVED COPPER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-66

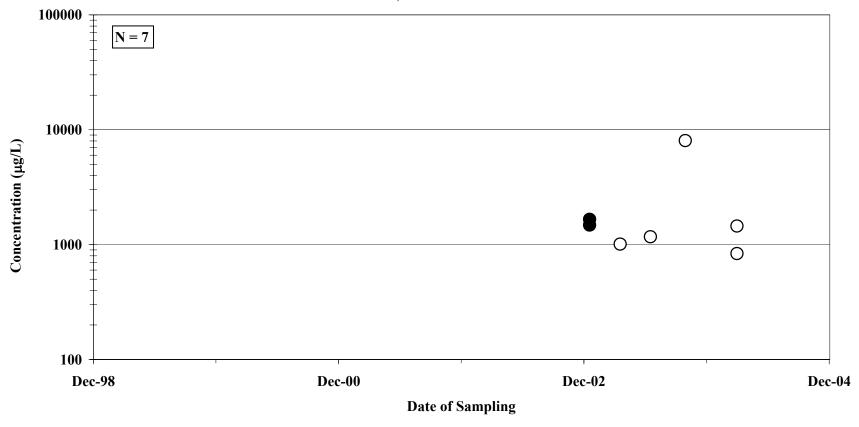
DISSOLVED IRON CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

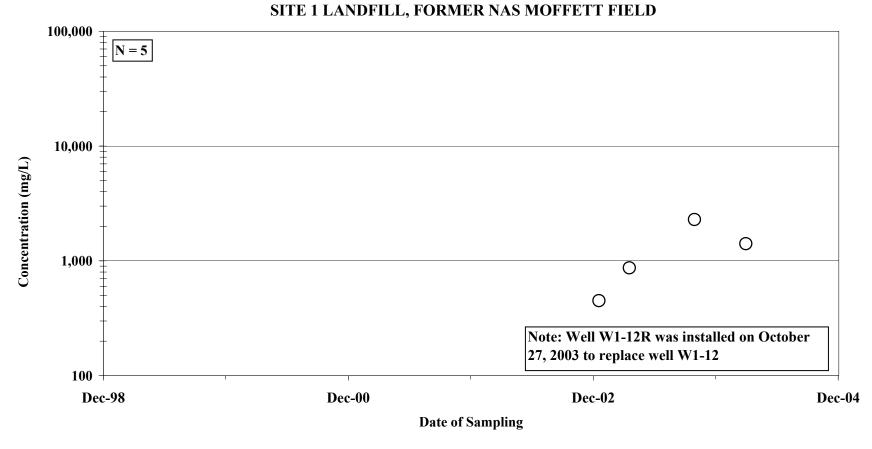
FIGURE E-67

DISSOLVED IRON CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

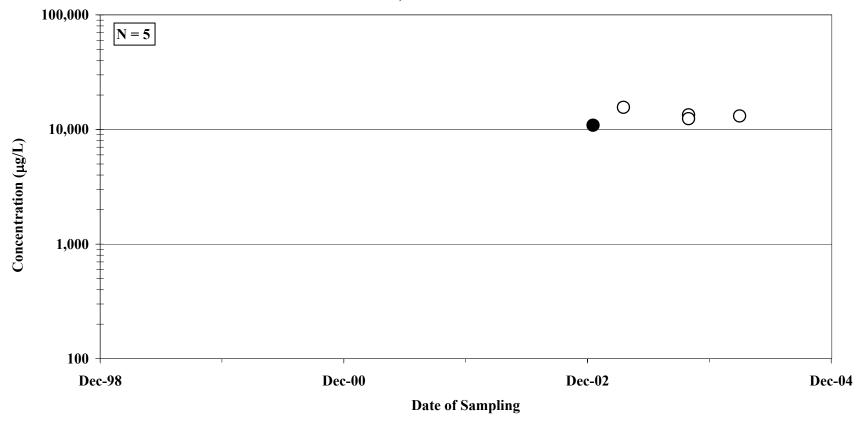
FIGURE E-68
DISSOLVED IRON CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-69

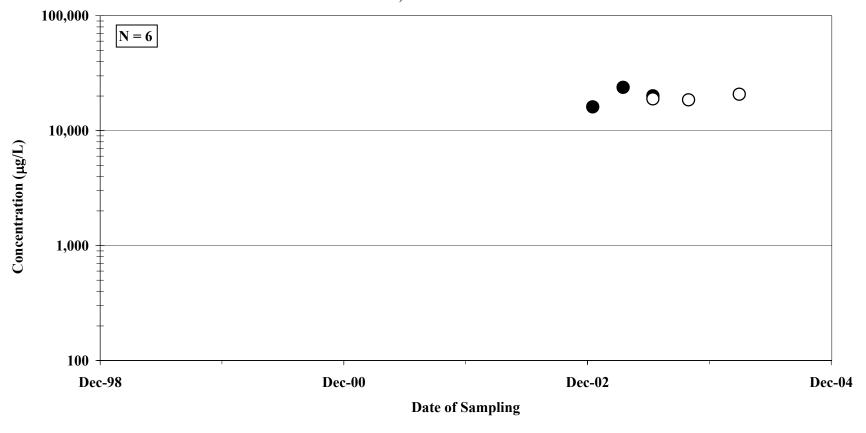
DISSOLVED IRON CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-70

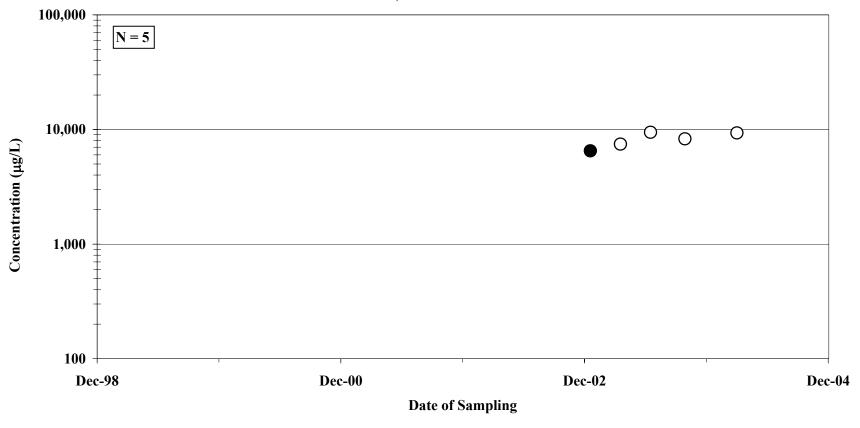
DISSOLVED IRON CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-71

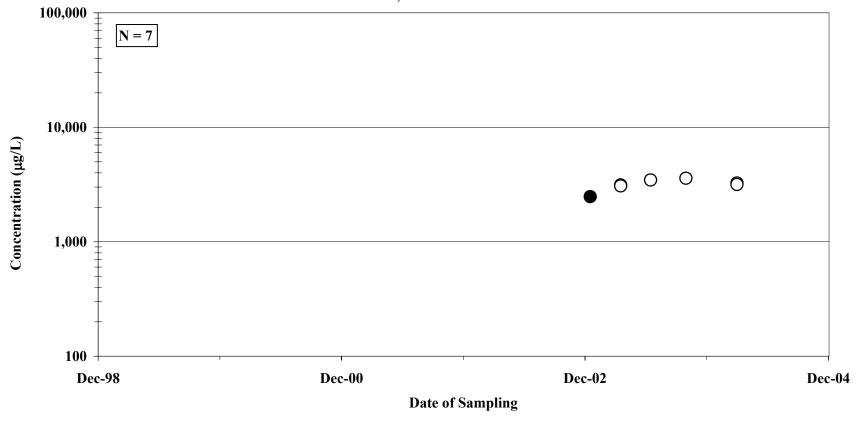
DISSOLVED IRON CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED IRON CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD

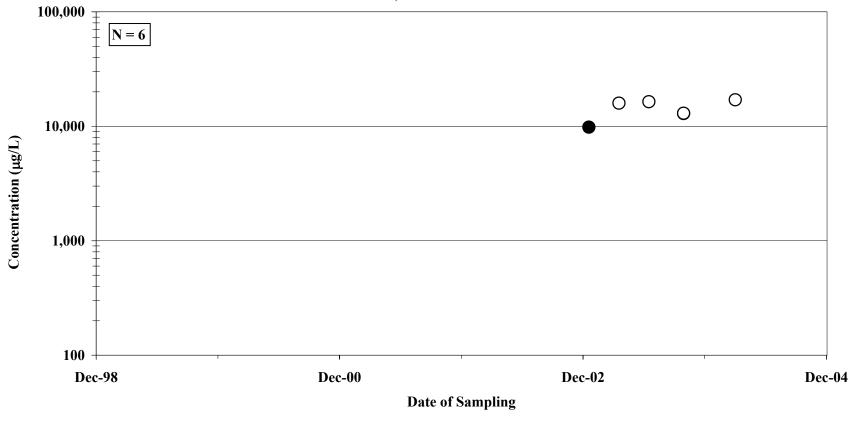
FIGURE E-72



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED IRON CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD

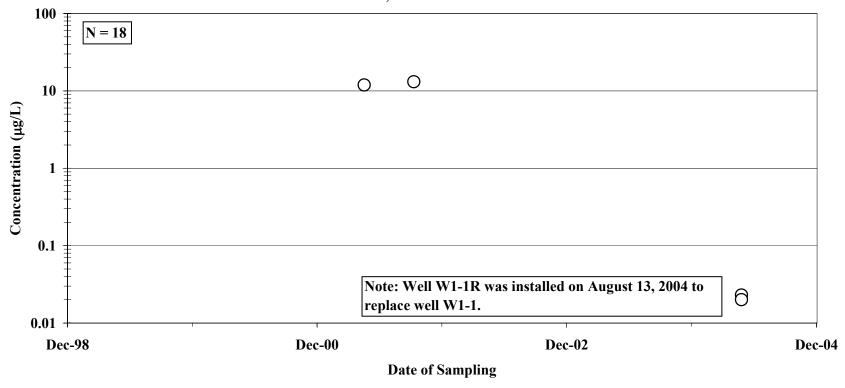
FIGURE E-73



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-74

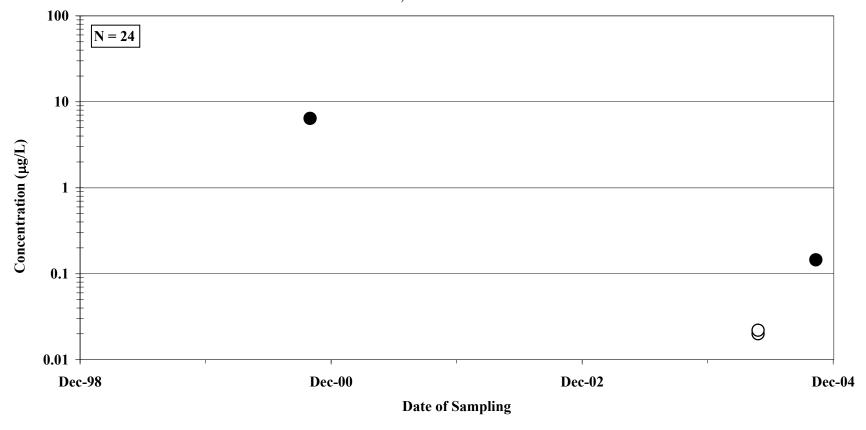
DISSOLVED LEAD CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-75

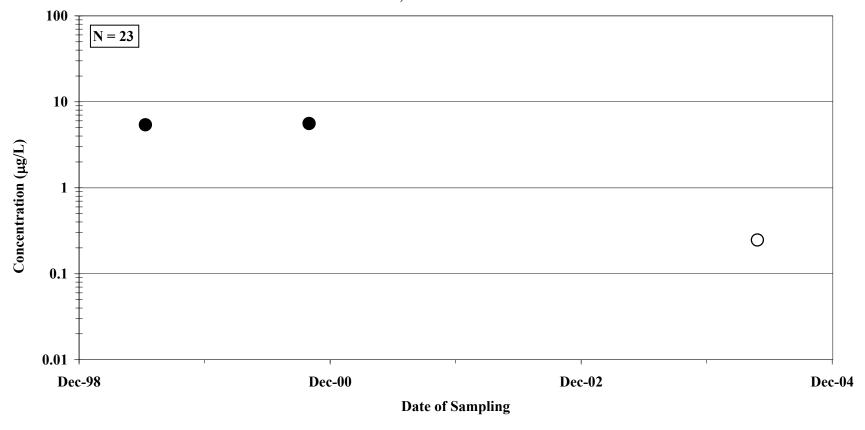
DISSOLVED LEAD CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-76

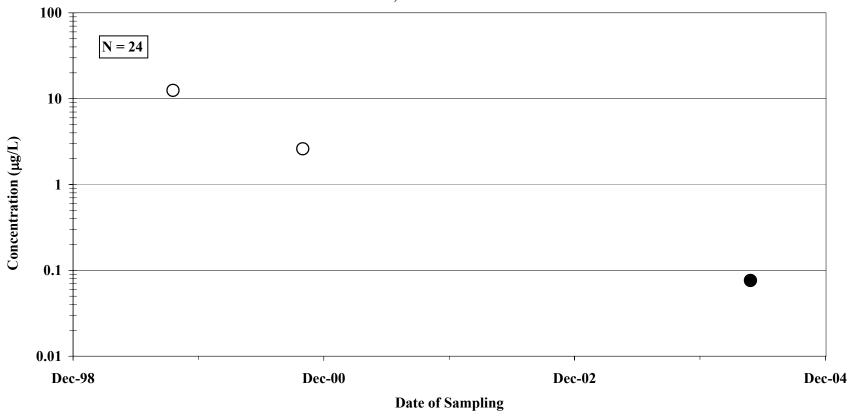
DISSOLVED LEAD CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-77

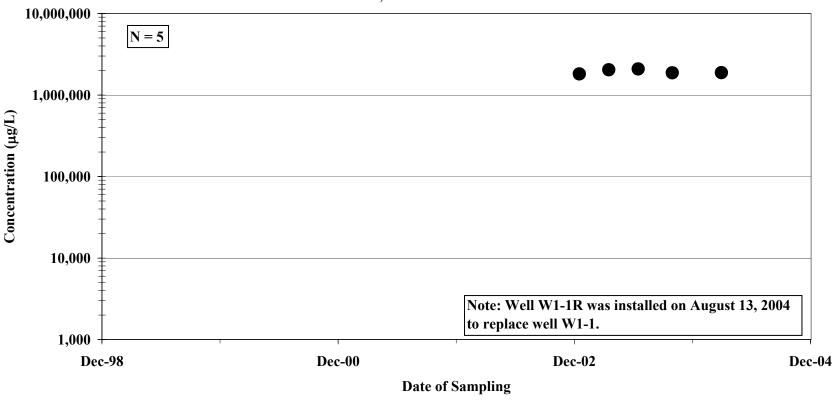
DISSOLVED LEAD CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-78

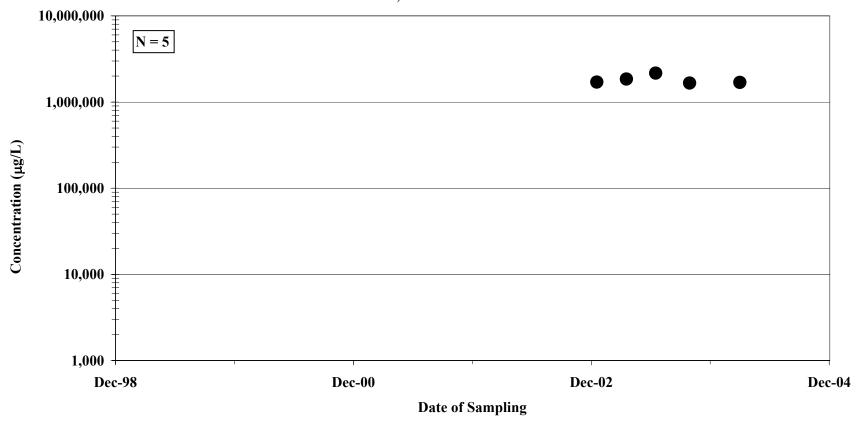
DISSOLVED MAGNESIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-79

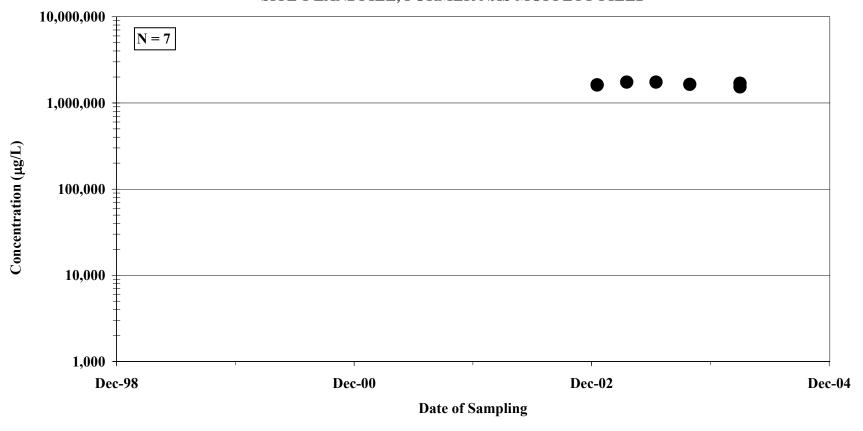
DISSOLVED MAGNESIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-80

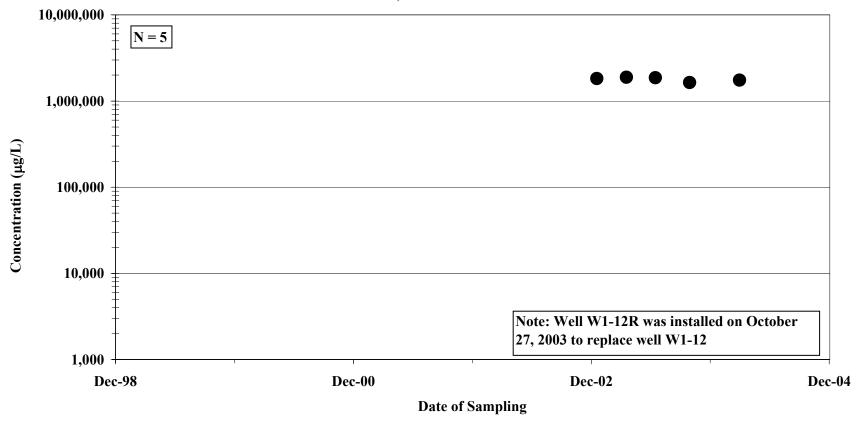
DISSOLVED MAGNESIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-81

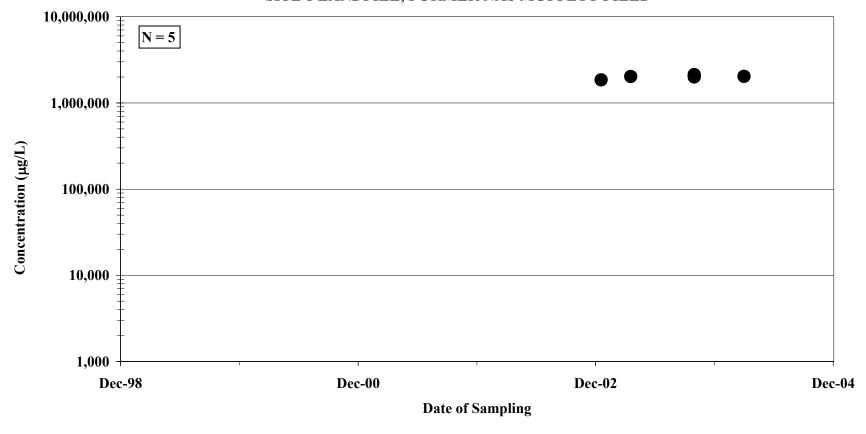
DISSOLVED MAGNESIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-82

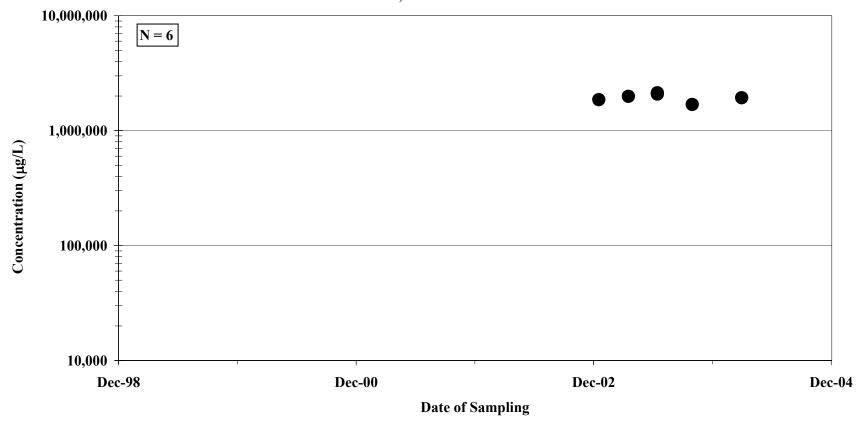
DISSOLVED MAGNESIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-83

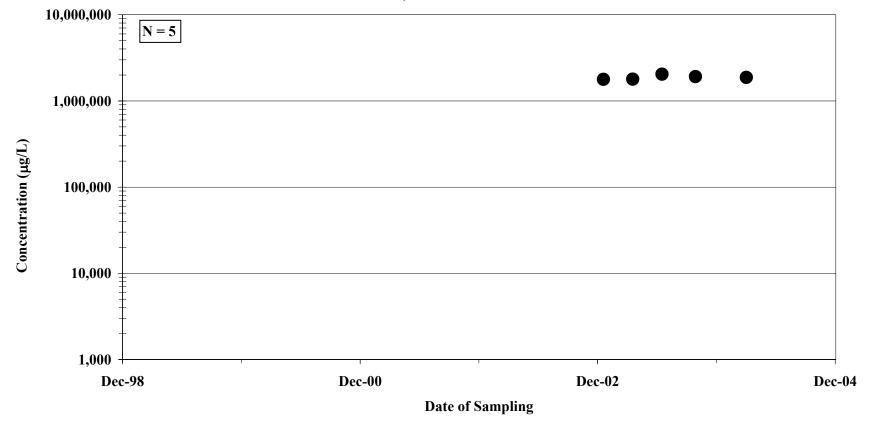
DISSOLVED MAGNESIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-84

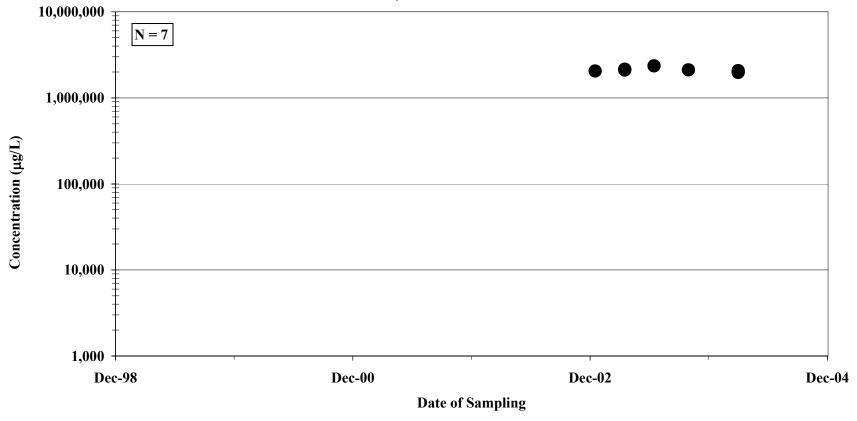
DISSOLVED MAGNESIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-85

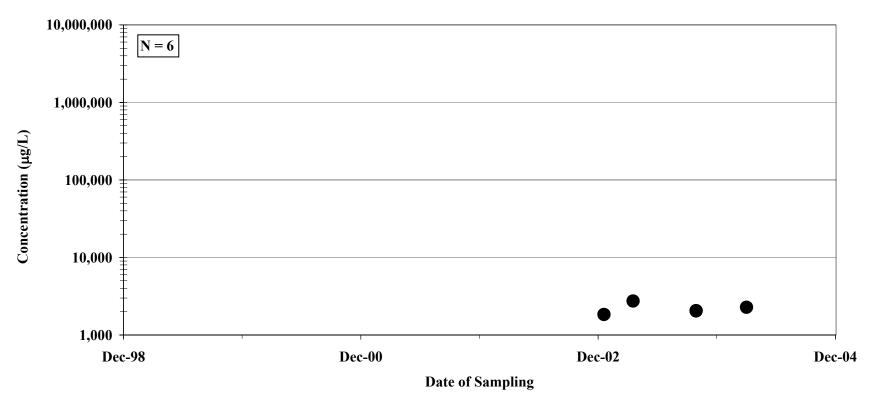
DISSOLVED MAGNESIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-86

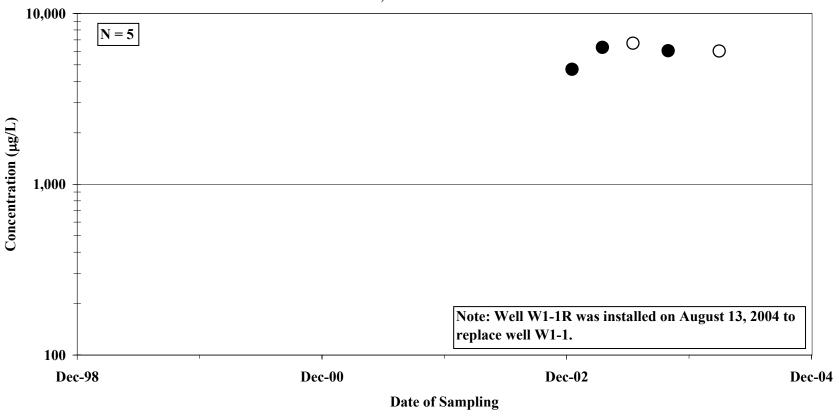
DISSOLVED MAGNESIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-87

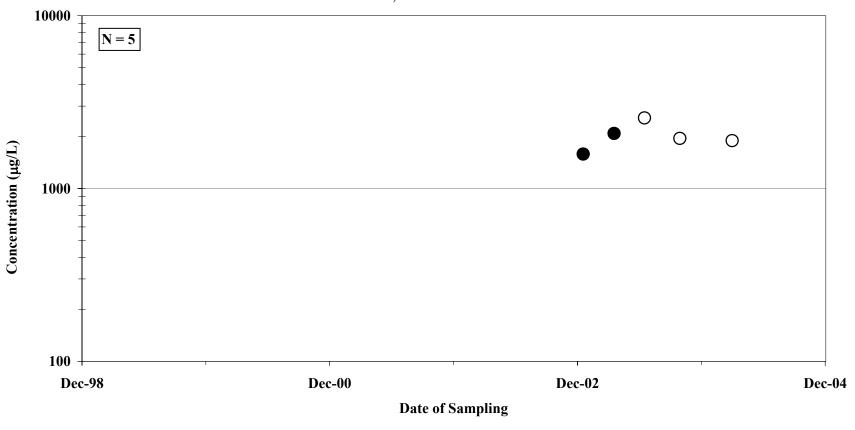
DISSOLVED MANGANESE CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-88

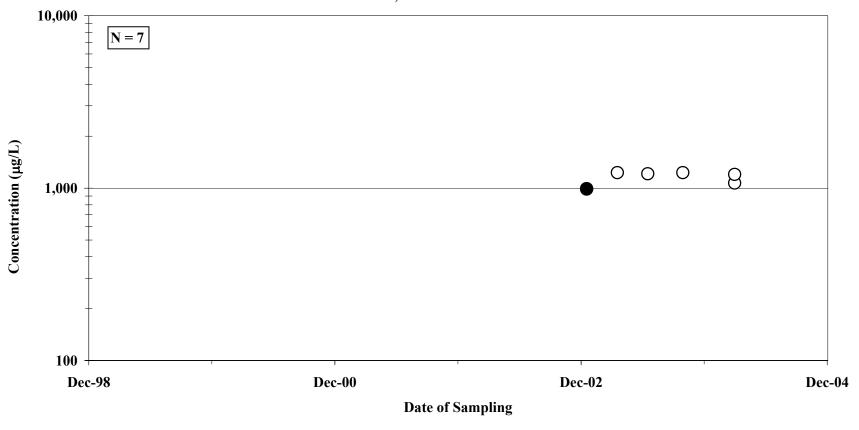
DISSOLVED MANGANESE CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-89

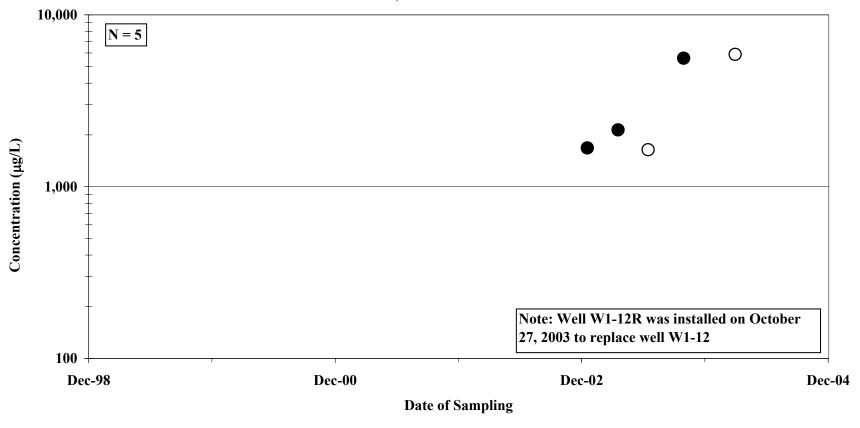
DISSOLVED MANGANESE CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-90

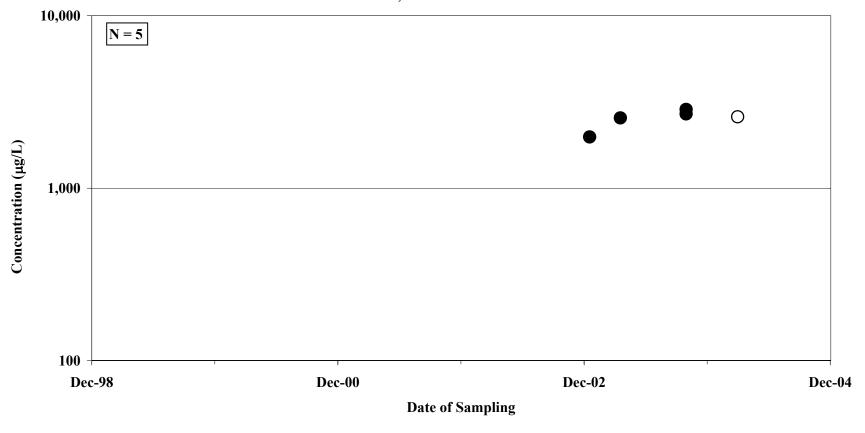
DISSOLVED MANGANESE CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-91

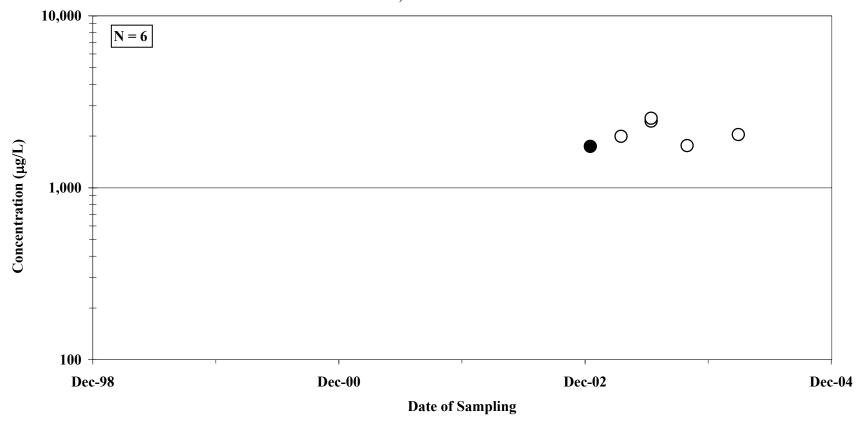
DISSOLVED MANGANESE CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-92

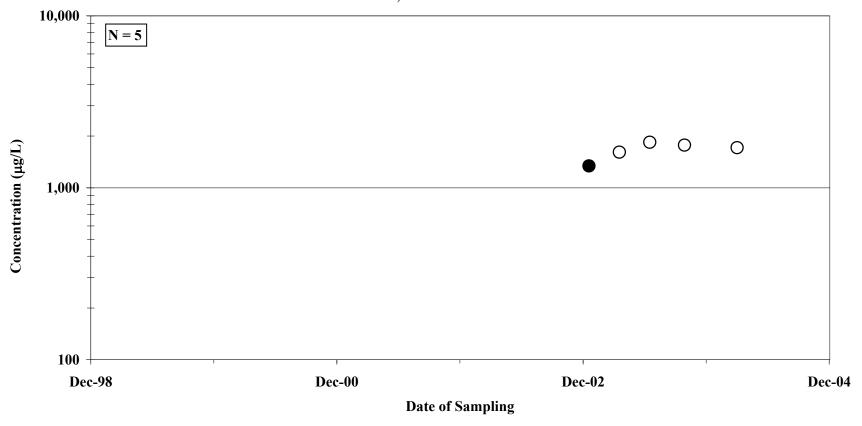
DISSOLVED MANGANESE CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-93

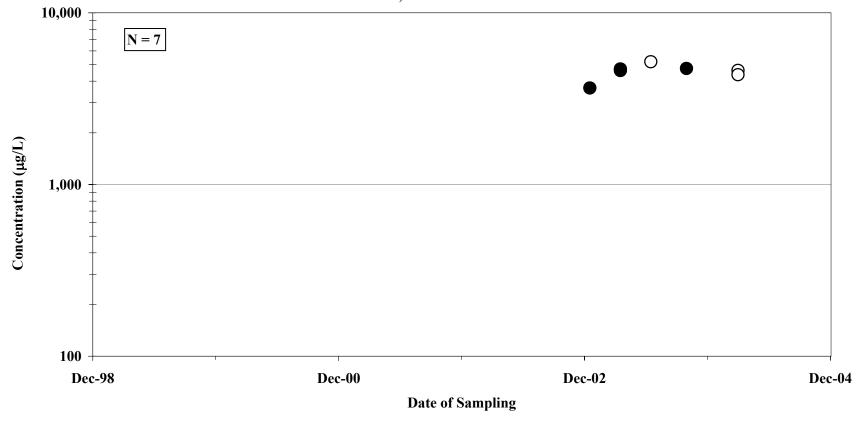
DISSOLVED MANGANESE CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-94

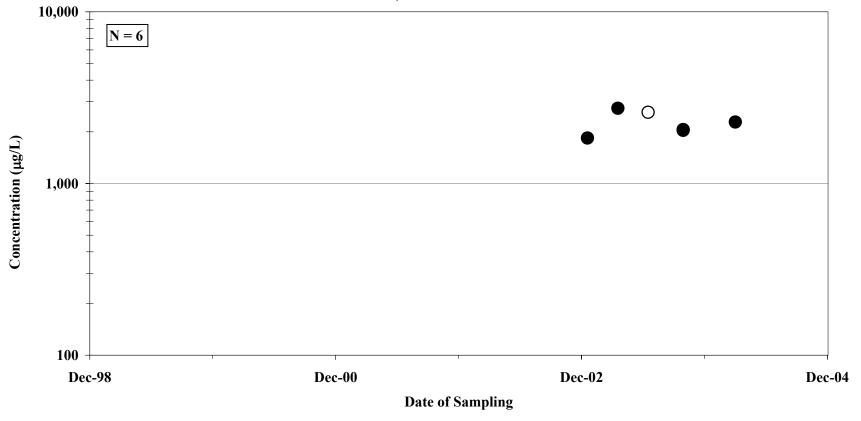
DISSOLVED MANGANESE CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-95

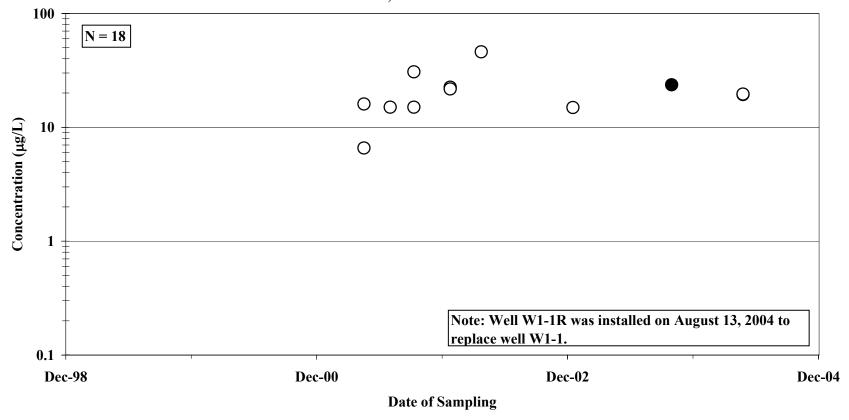
DISSOLVED MANGANESE CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-96

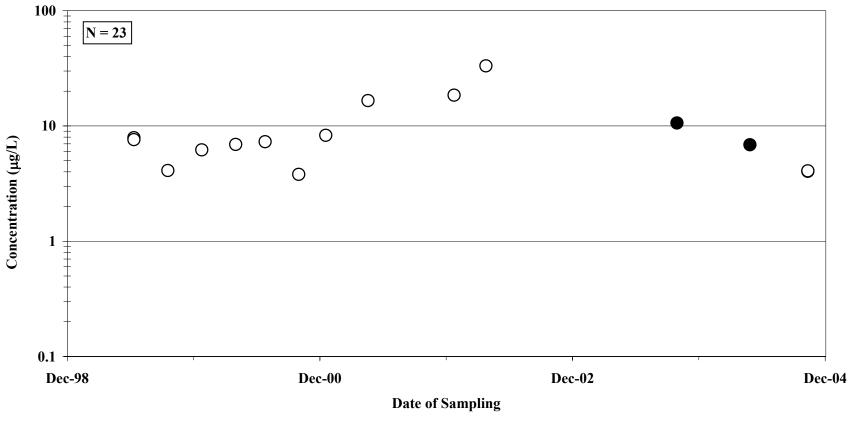
DISSOLVED NICKEL CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-97

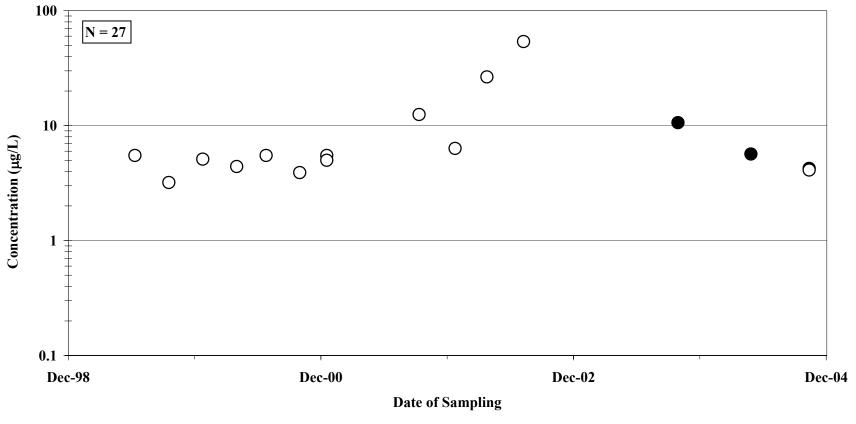
DISSOLVED ANTIMONY CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-98

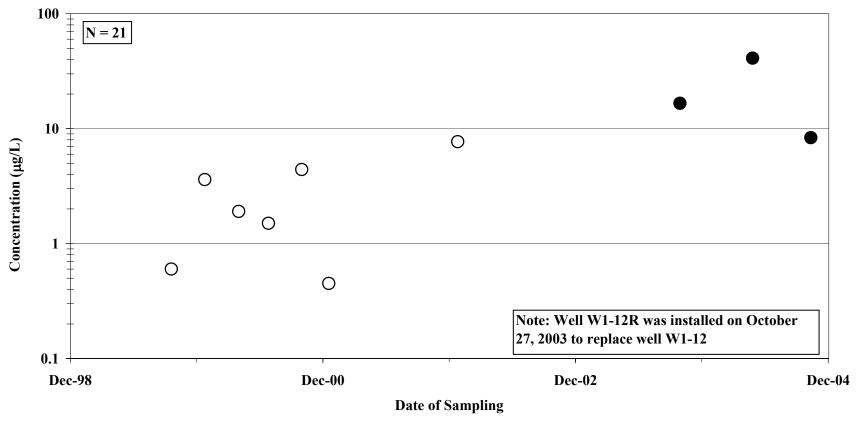
DISSOLVED NICKEL CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-99

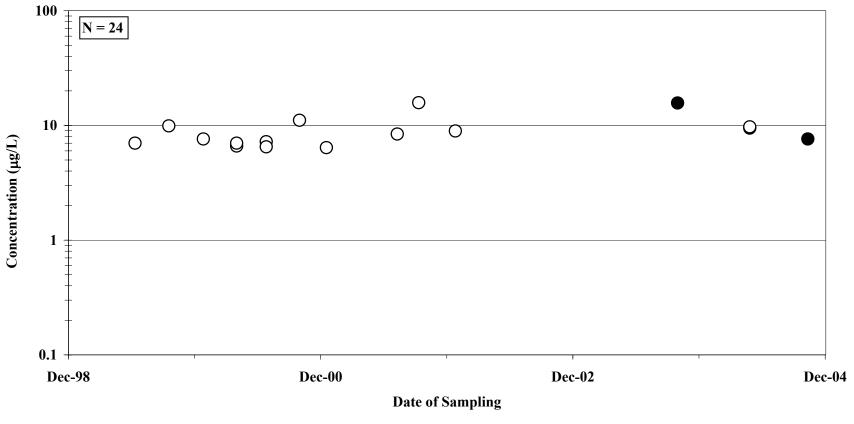
DISSOLVED NICKEL CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R
SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-100

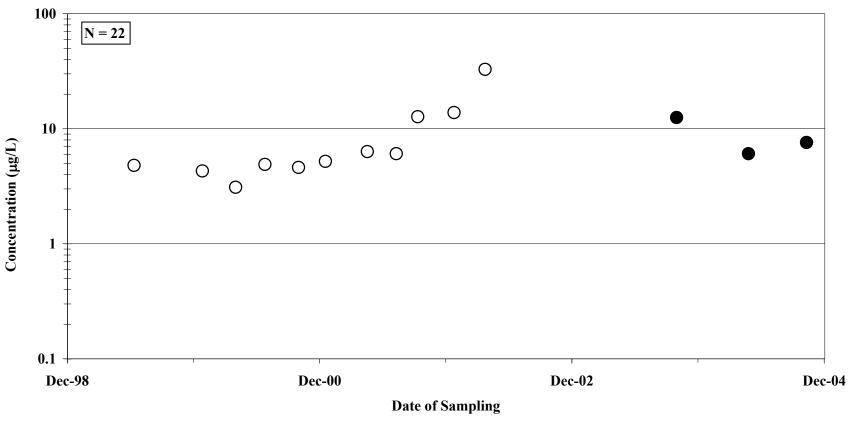
DISSOLVED NICKEL CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-101

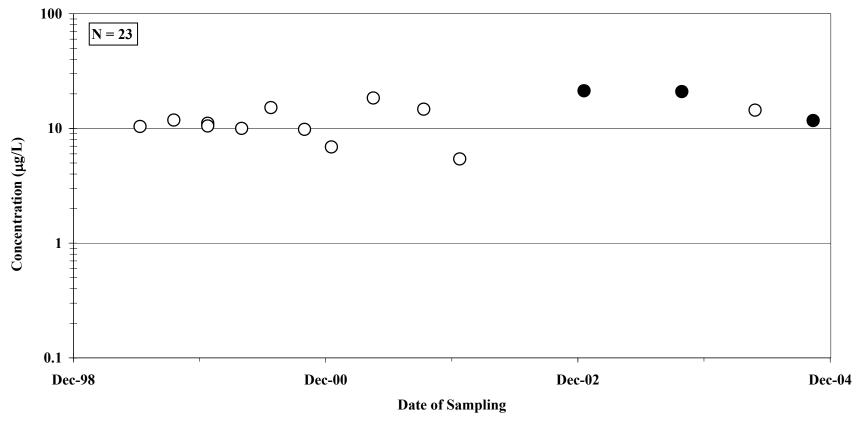
DISSOLVED NICKEL CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-102

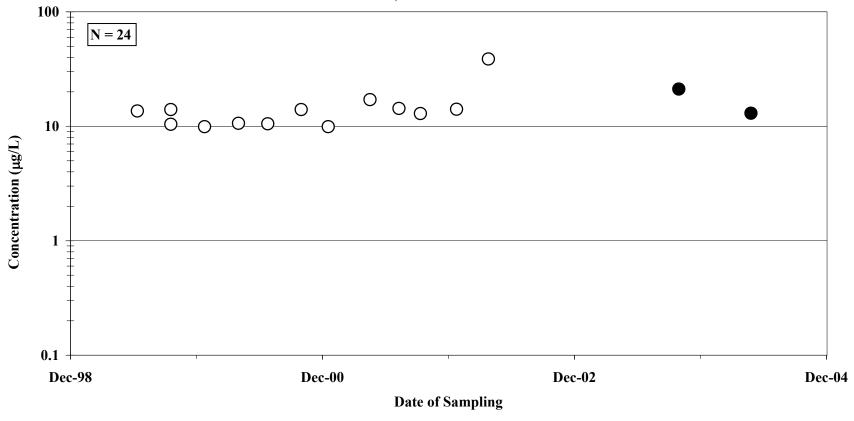
DISSOLVED NICKEL CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-103

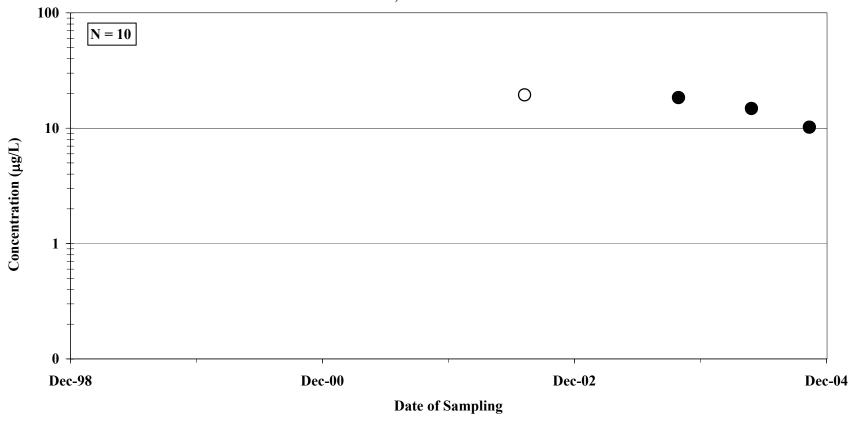
DISSOLVED NICKEL CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-104

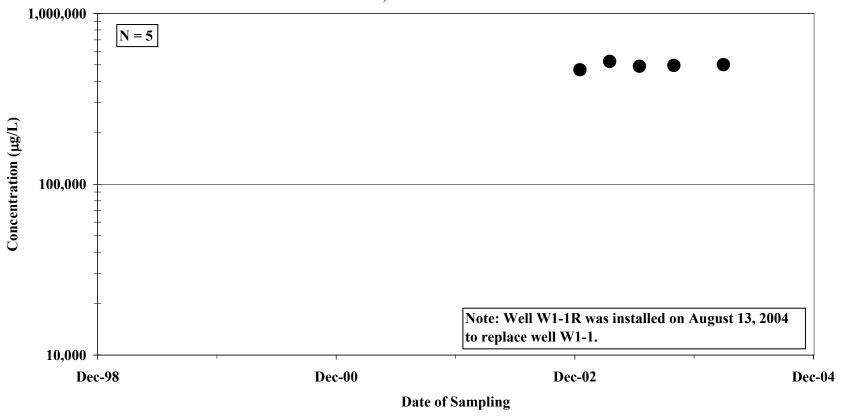
DISSOLVED NICKEL CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

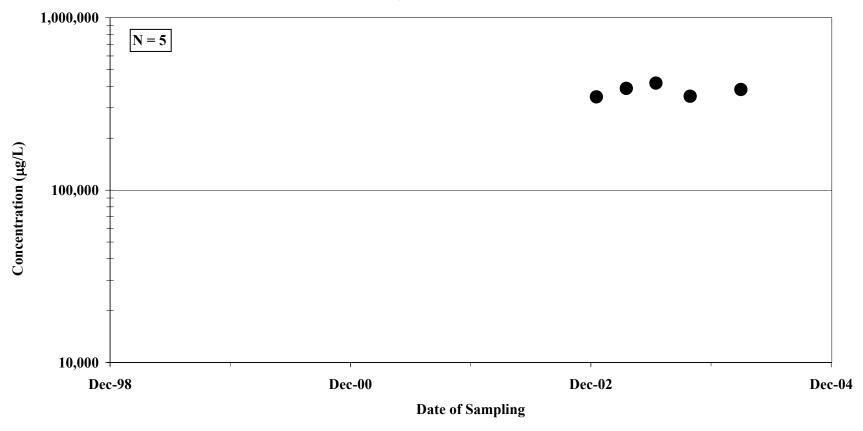
FIGURE E-105

DISSOLVED POTASSIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



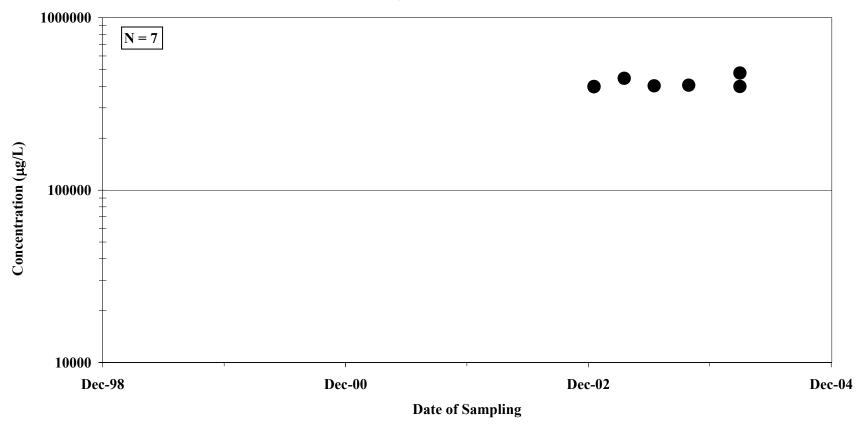
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED POTASSIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



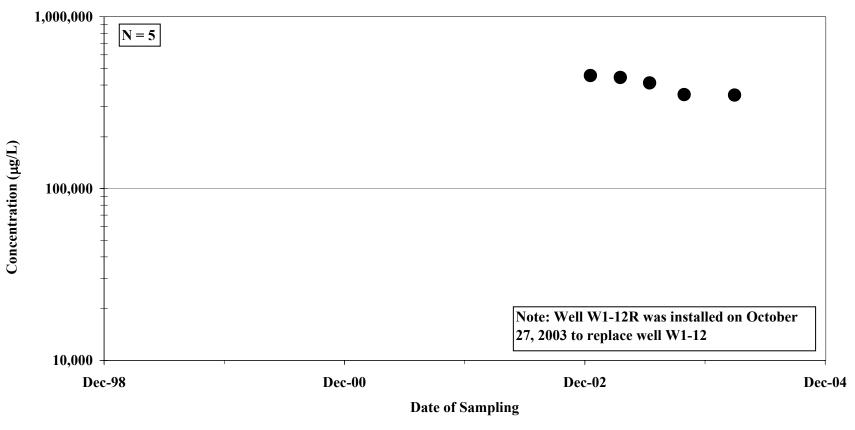
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED POTASSIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



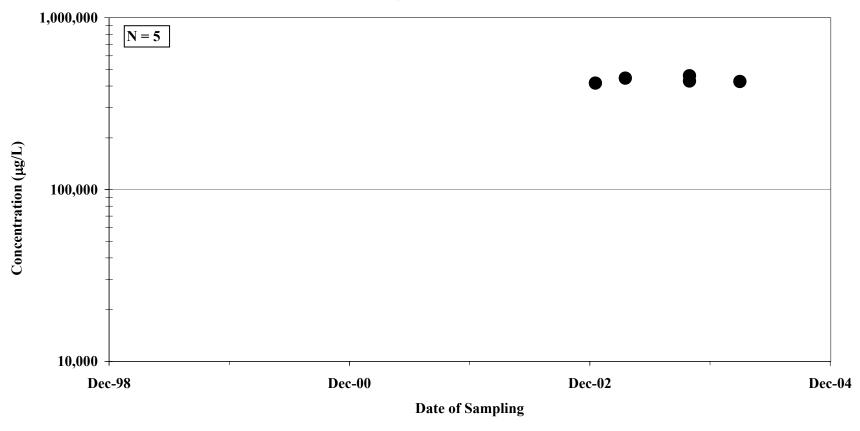
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED POTASSIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



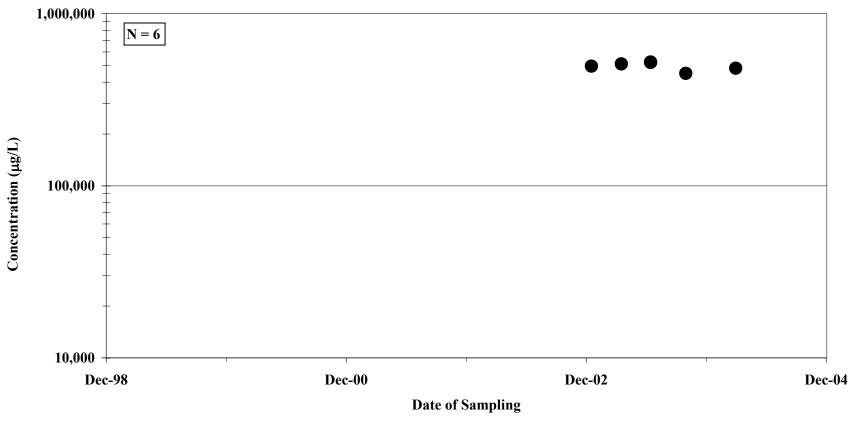
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED POTASSIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

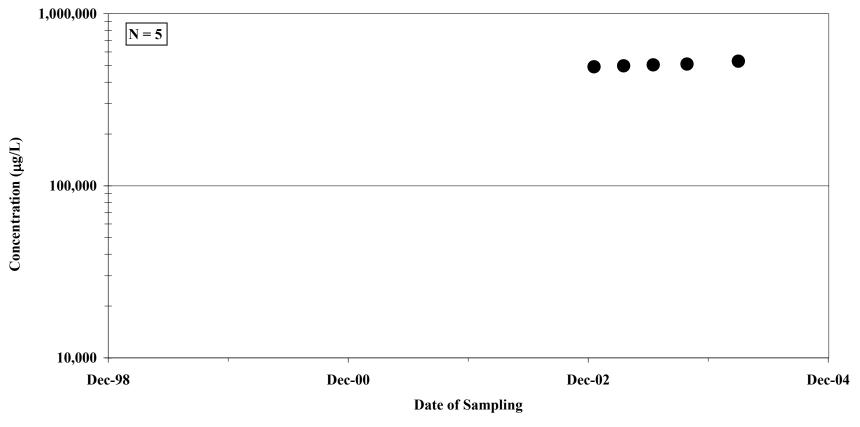
DISSOLVED POTASSIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-111

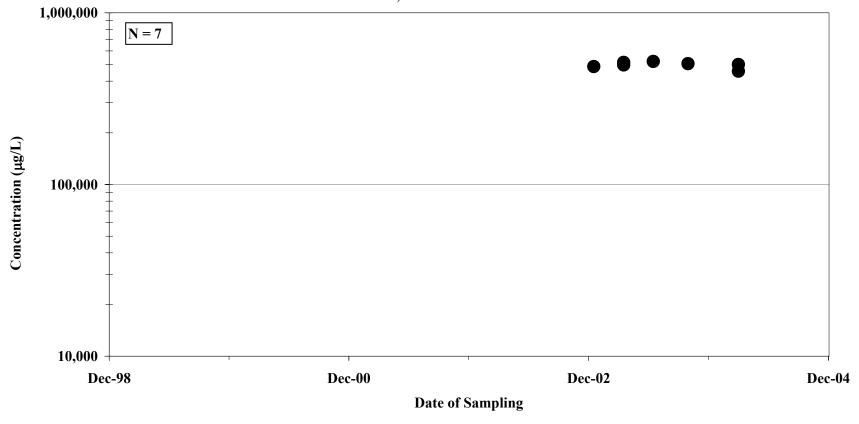
DISSOLVED POTASSIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

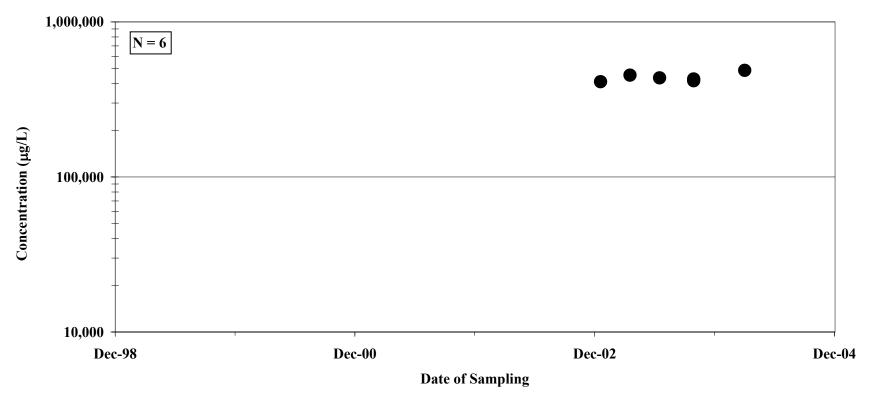
FIGURE E-112

DISSOLVED POTASSIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

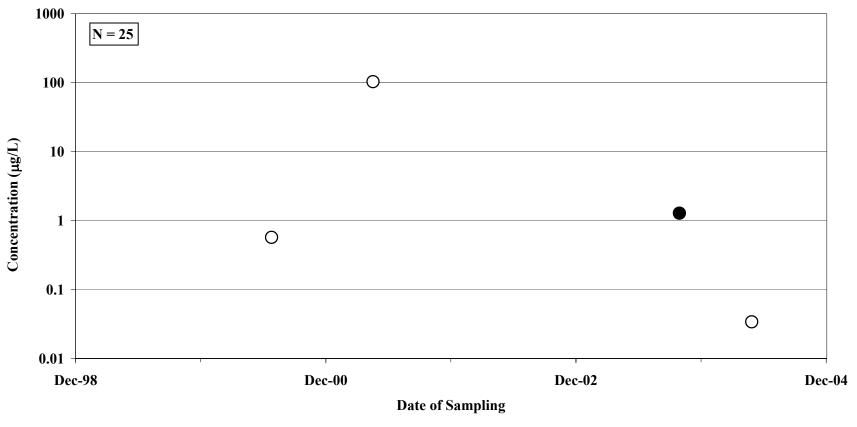
DISSOLVED POTASSIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

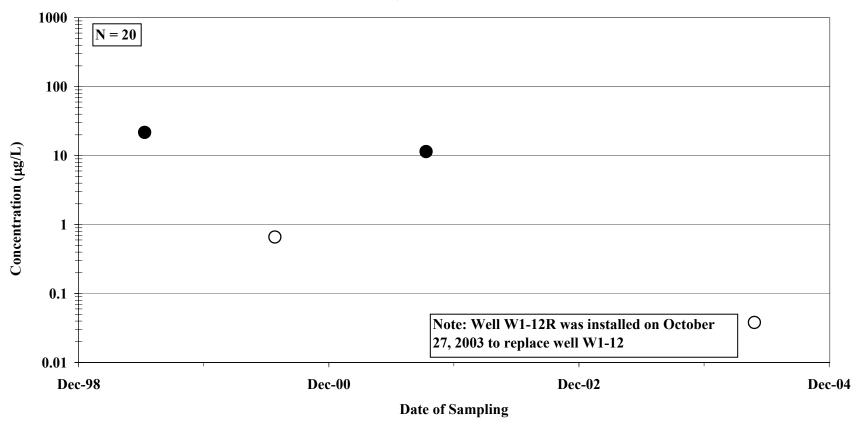
FIGURE E-114

DISSOLVED SILVER CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



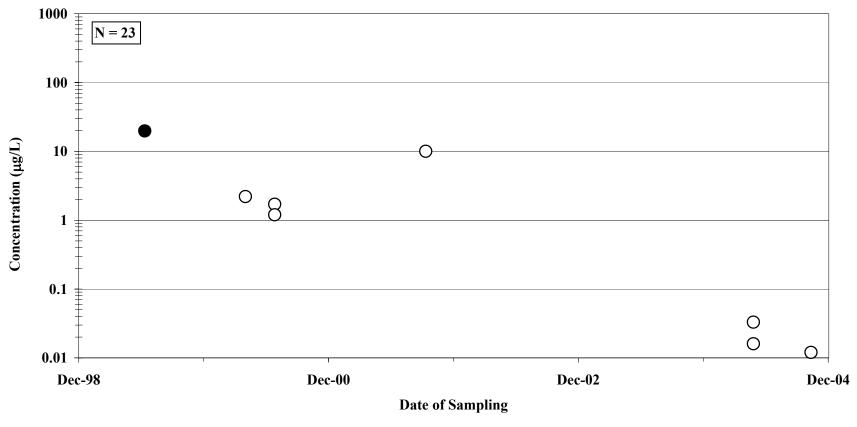
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED SILVER CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

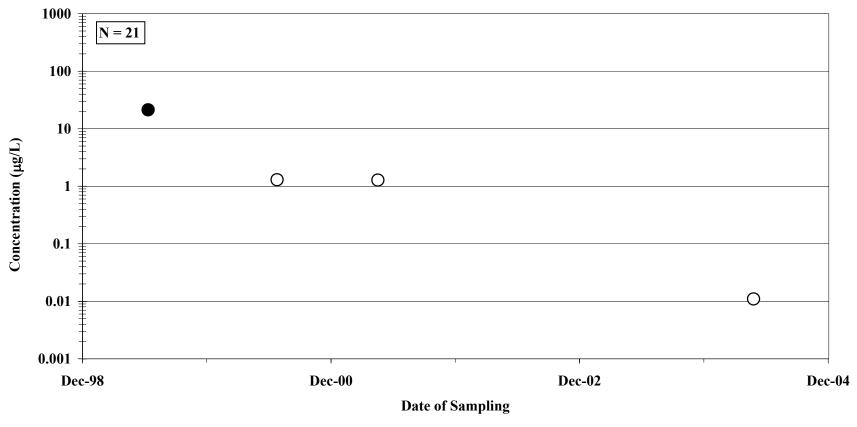
DISSOLVED SILVER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

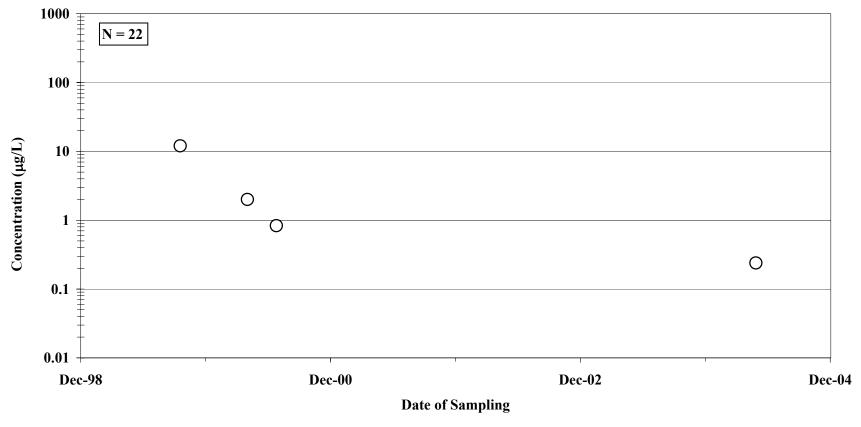
FIGURE E-117

DISSOLVED SILVER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



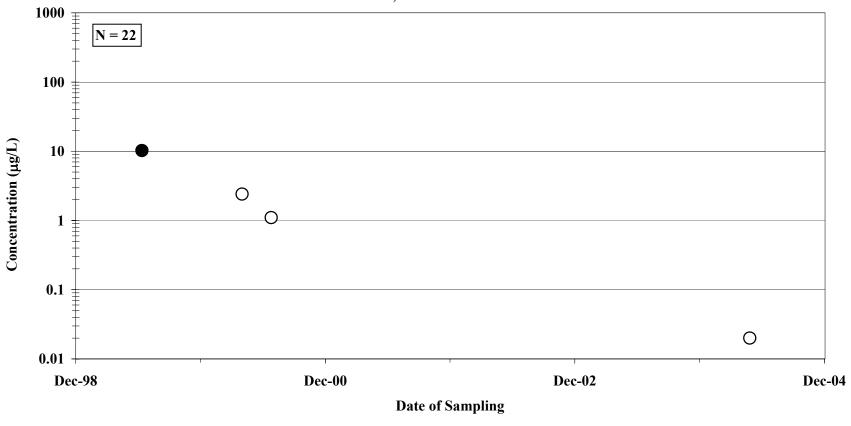
- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

DISSOLVED SILVER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

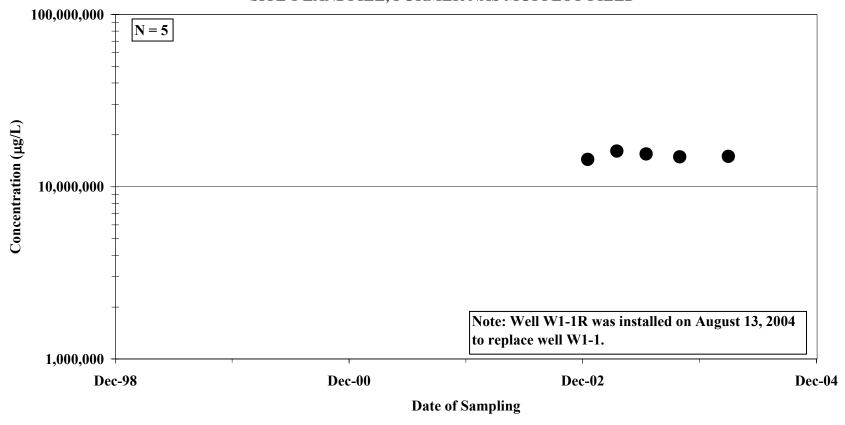
DISSOLVED SILVER CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

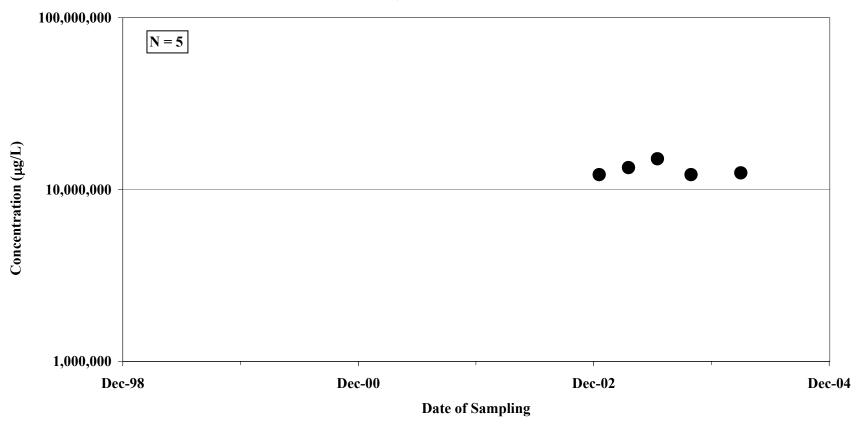
FIGURE E-120

DISSOLVED SODIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

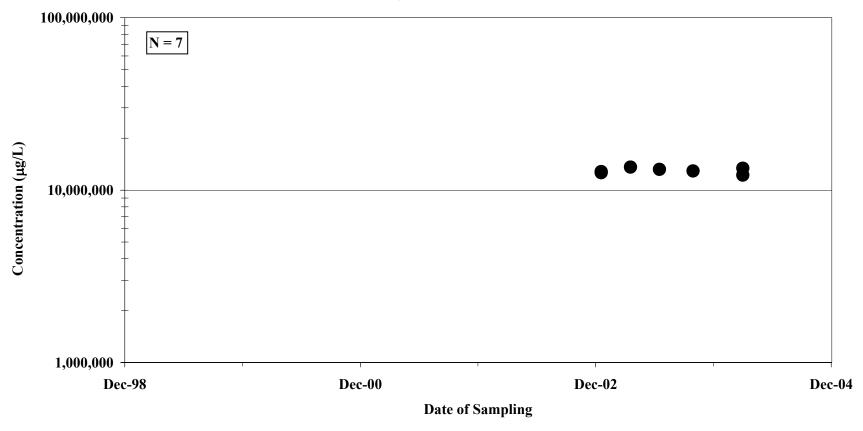
DISSOLVED SODIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-122

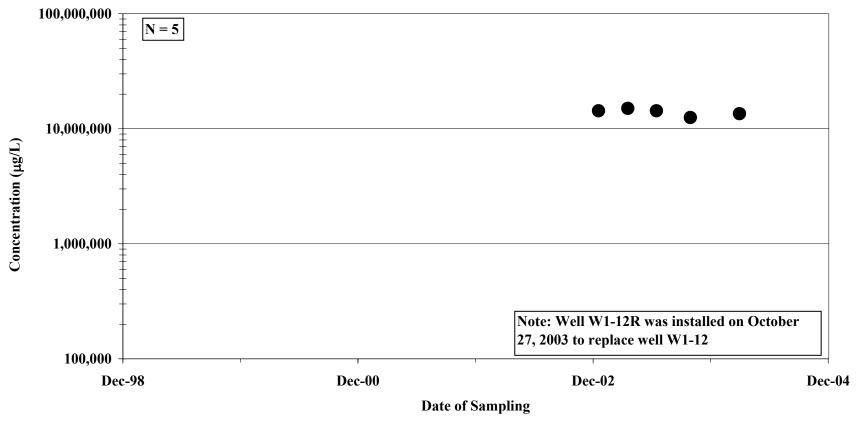
DISSOLVED SODIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-123

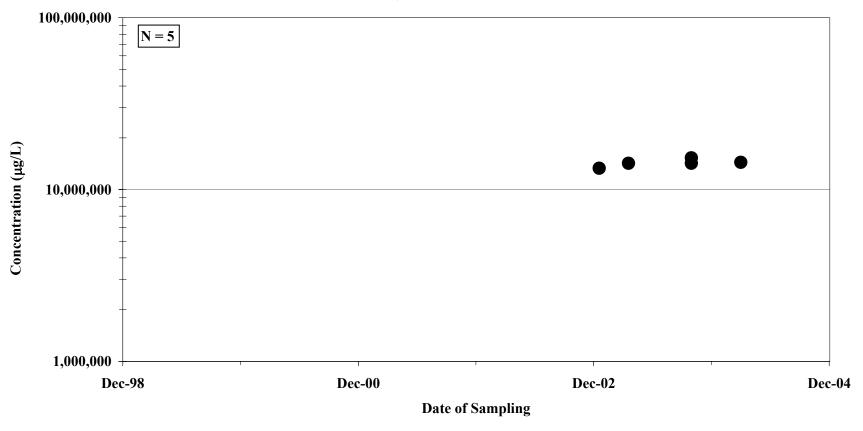
DISSOLVED SODIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-124

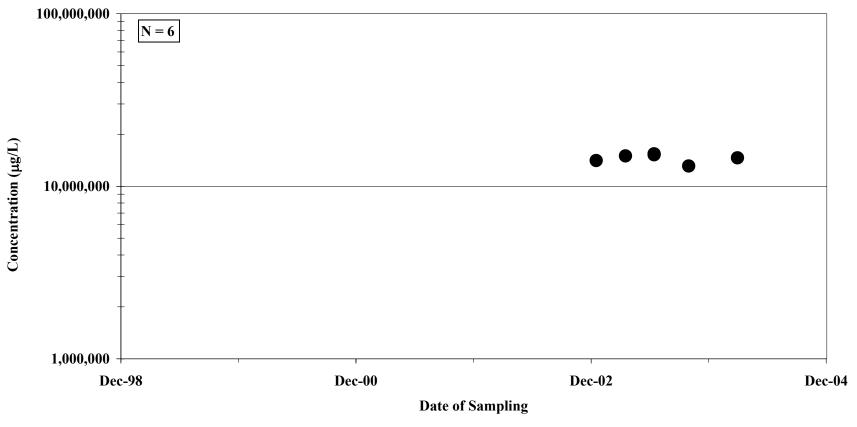
DISSOLVED SODIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-125

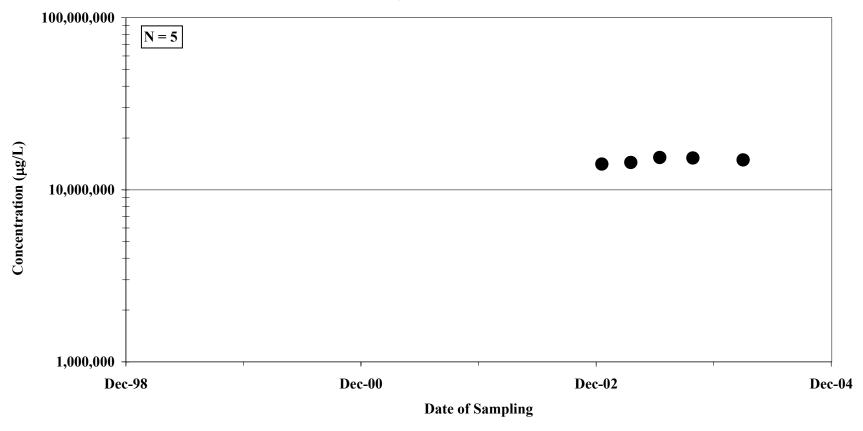
DISSOLVED SODIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-126

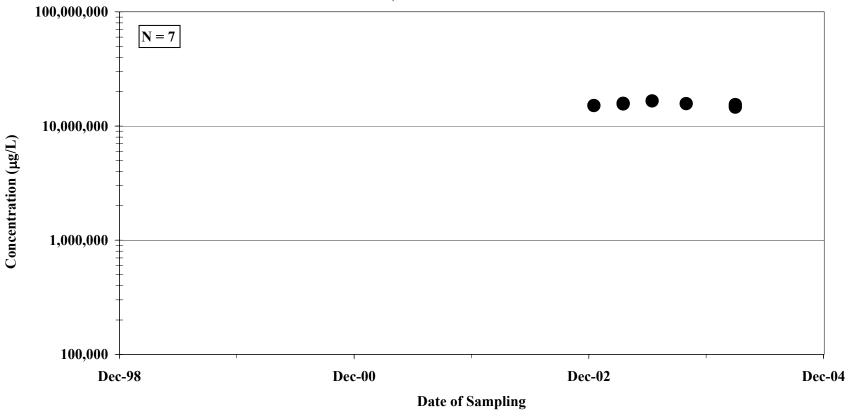
DISSOLVED SODIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

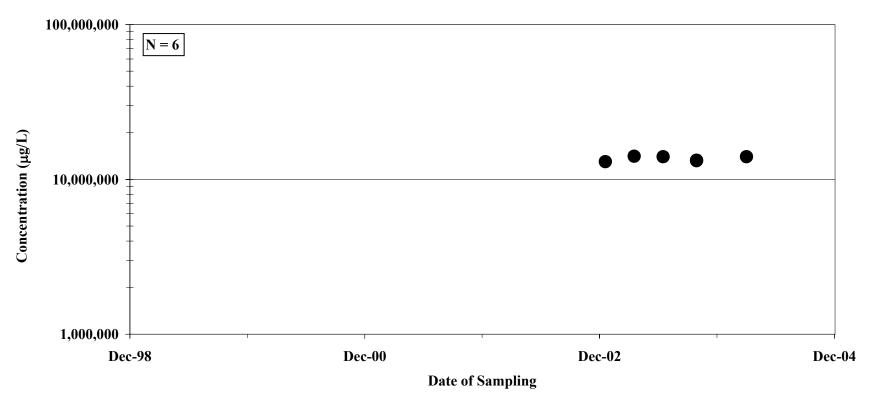
FIGURE E-127

DISSOLVED SODIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

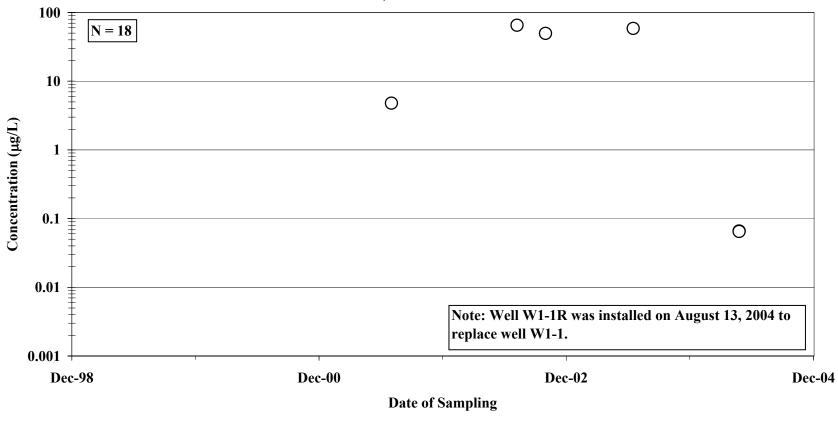
DISSOLVED SODIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-129

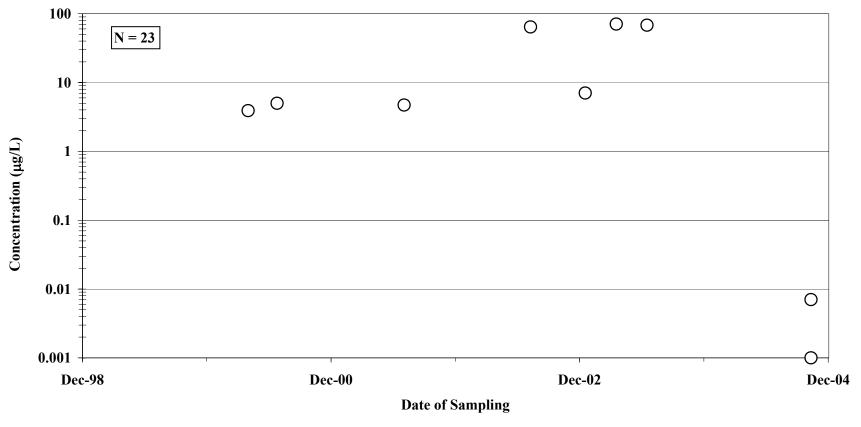
DISSOLVED THALLIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-130

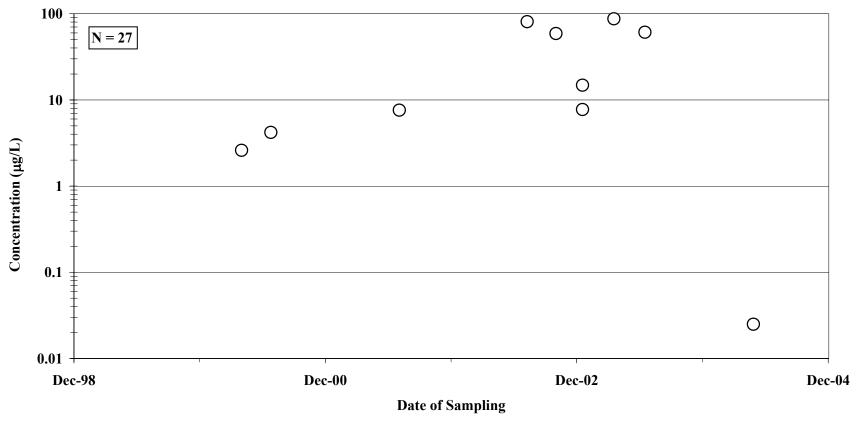
DISSOLVED THALLIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-131

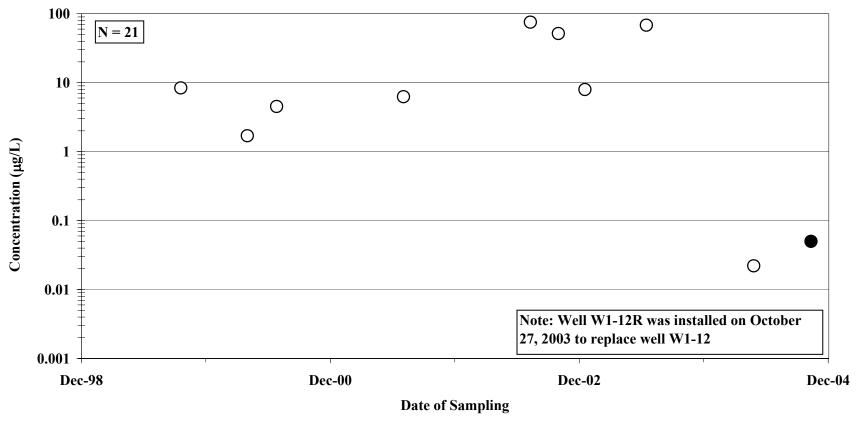
DISSOLVED THALLIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-132

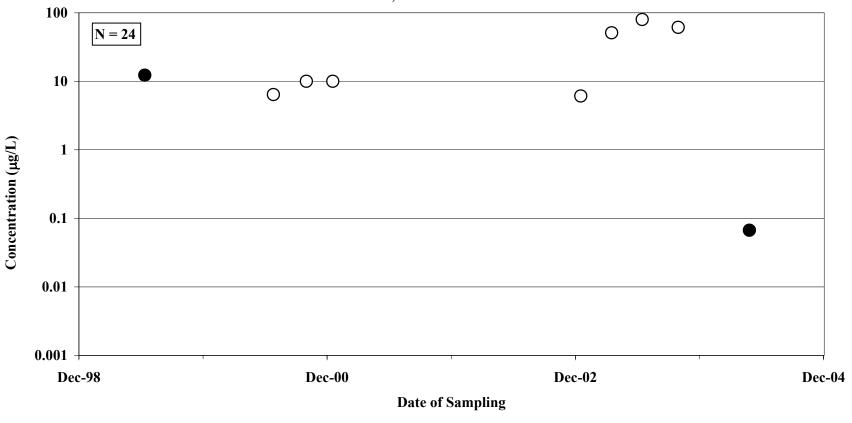
DISSOLVED THALLIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-133

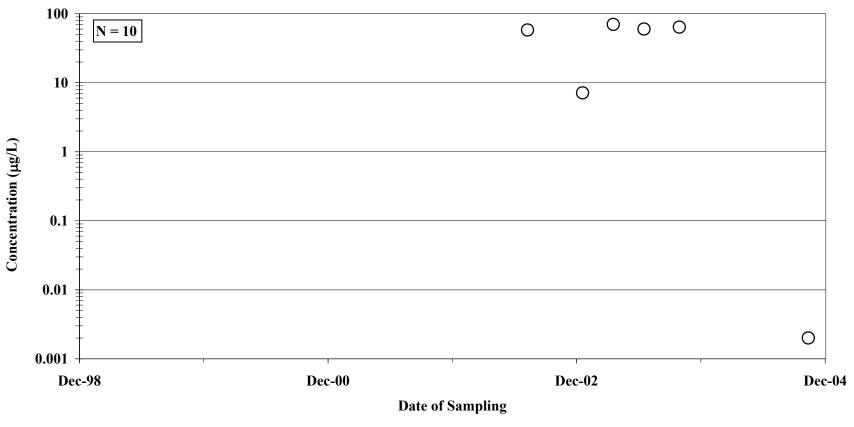
DISSOLVED THALLIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

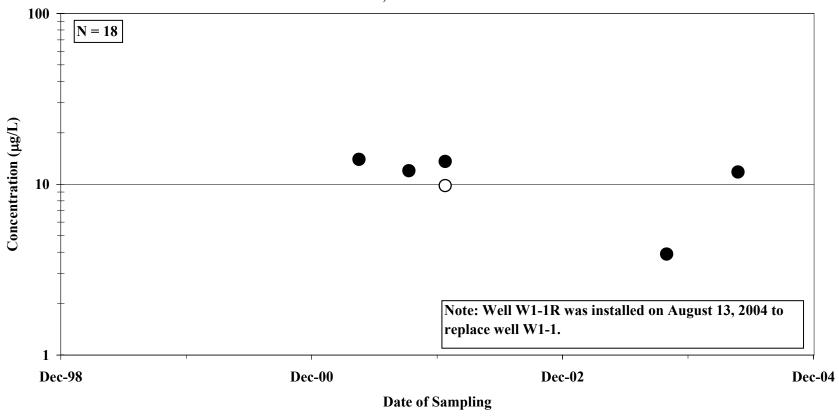
FIGURE E-134

DISSOLVED THALLIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

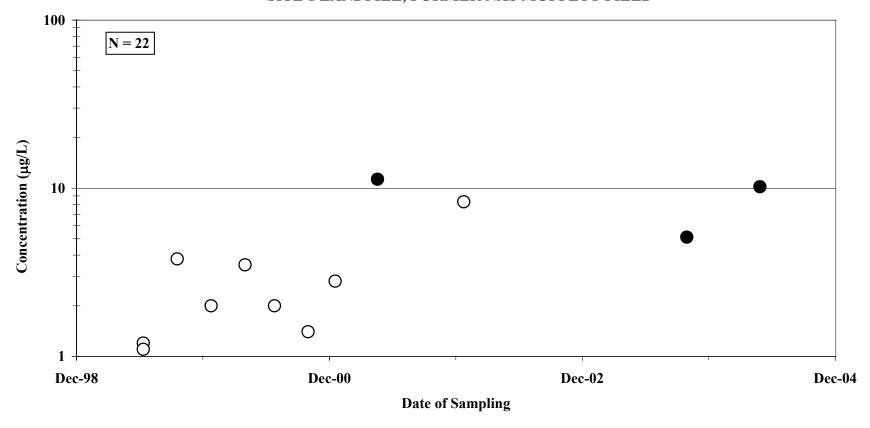
DISSOLVED VANADIUM CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

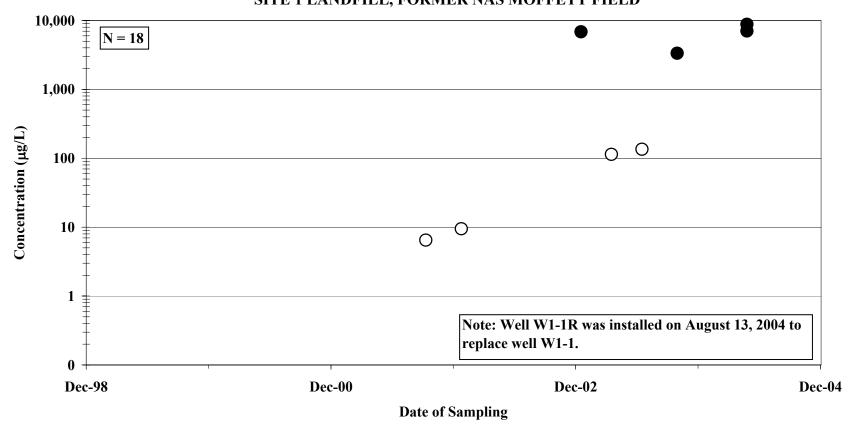
FIGURE E-136

DISSOLVED VANADIUM CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

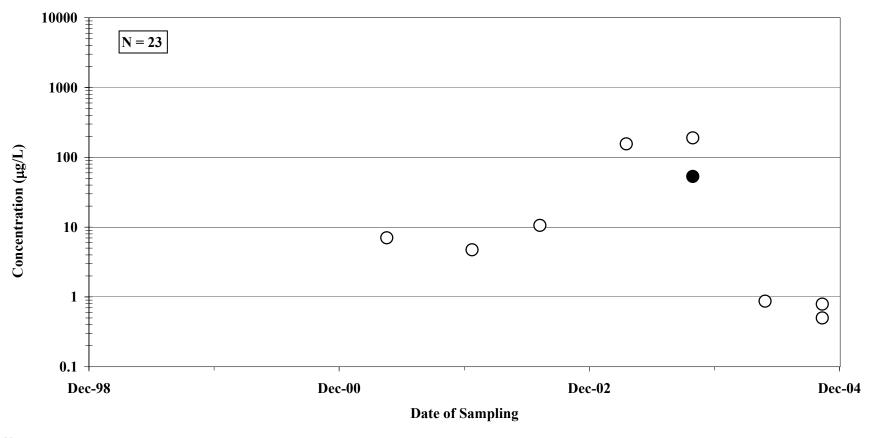
DISSOLVED ZINC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-1 / W1-1R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-138

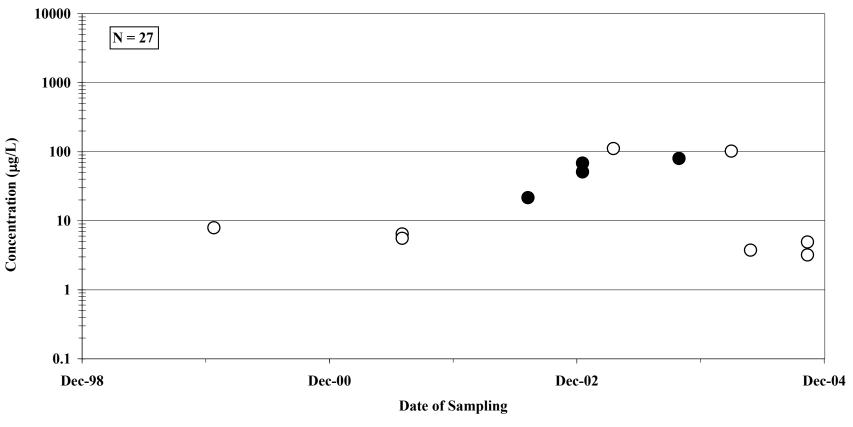
DISSOLVED ZINC CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-5 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-139

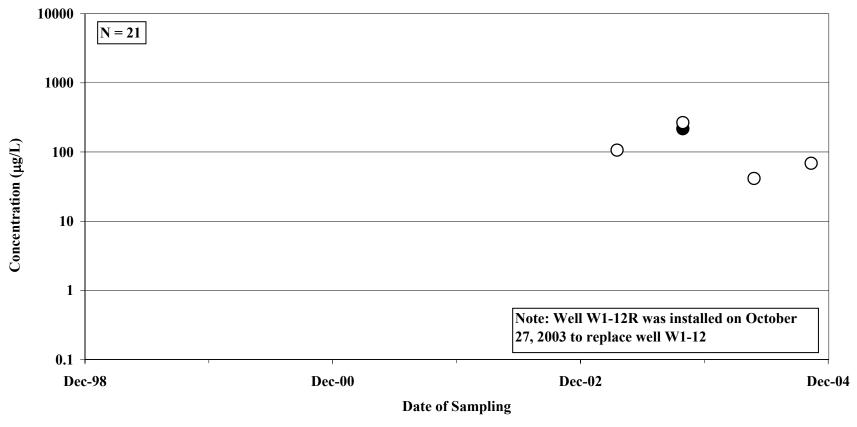
DISSOLVED ZINC CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-8 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-140

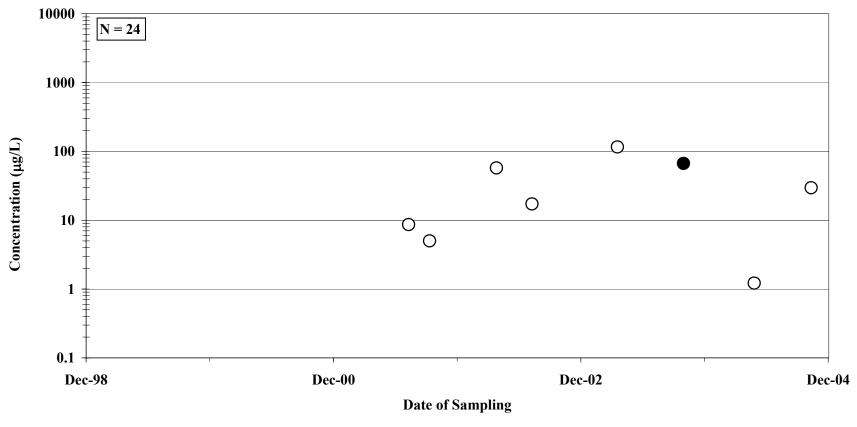
DISSOLVED ZINC CONCENTRATIONS IN BACKGROUND MONITORING WELL W1-12 / W1-12R SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-141

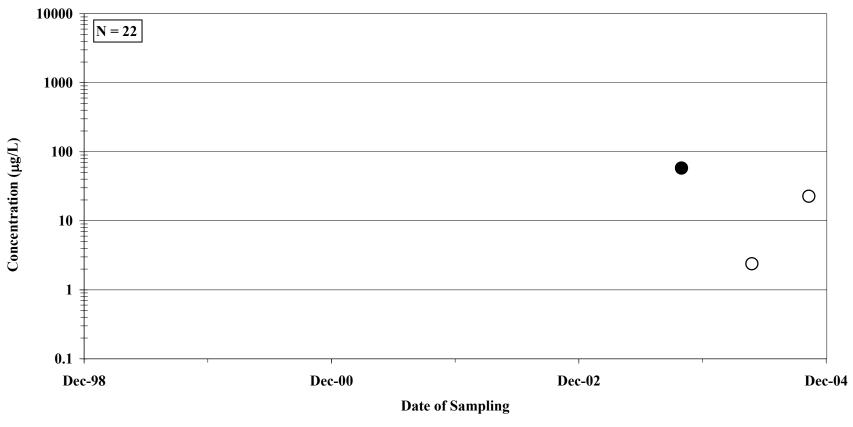
DISSOLVED ZINC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-14 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-142

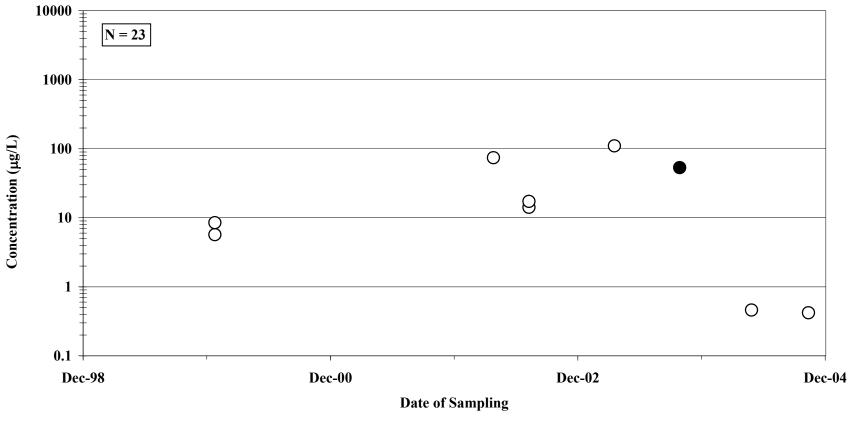
DISSOLVED ZINC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-15 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-143

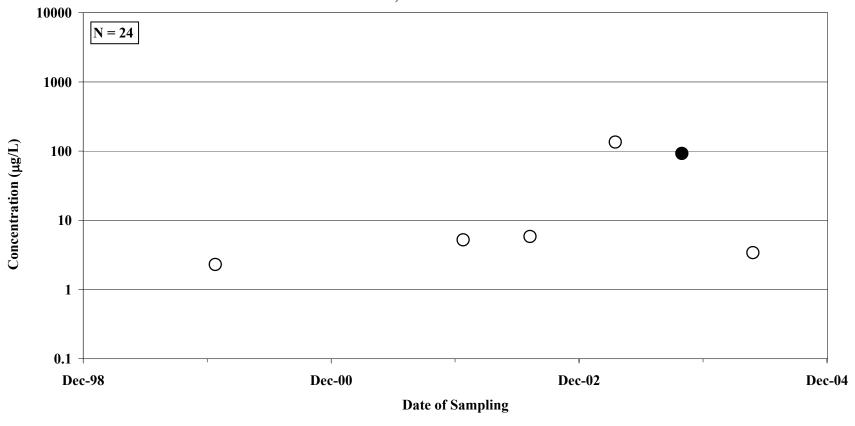
DISSOLVED ZINC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-16 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-144

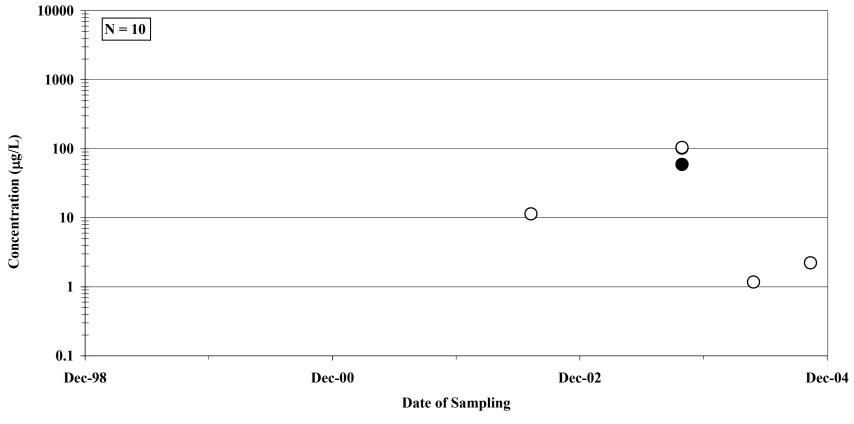
DISSOLVED ZINC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-19 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

FIGURE E-145

DISSOLVED ZINC CONCENTRATIONS IN DOWNGRADIENT MONITORING WELL W1-24 SITE 1 LANDFILL, FORMER NAS MOFFETT FIELD



- 1. Non-detect results are not plotted.
- 2. Open symbols indicate estimated values.
- 3. Closed symbols indicate concentrations equal to or greater than the laboratory reporting limit.
- 4. N = Total number of samples.

APPENDIX F METHANE MONITORING DATA GRAPHS

FIGURE F-1
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-1

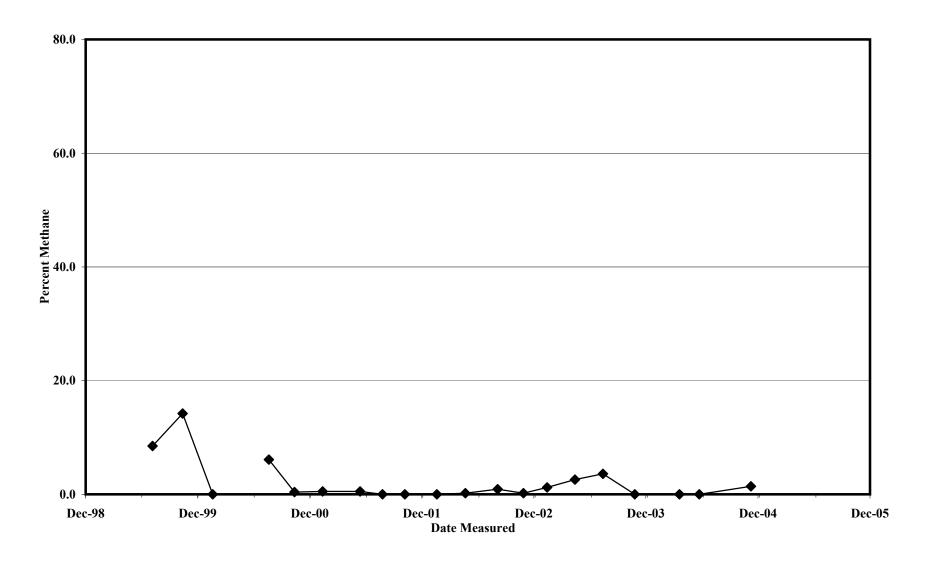


FIGURE F-2
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-2

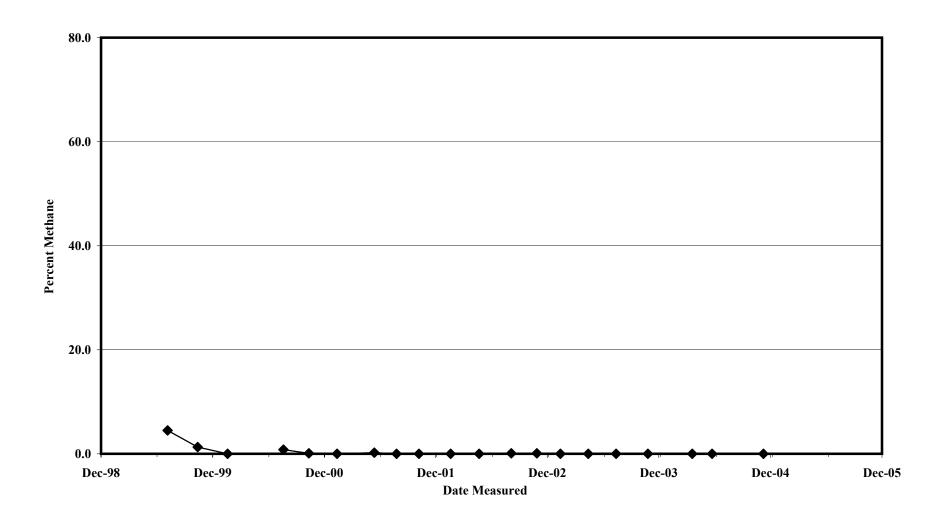


FIGURE F-3
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-3

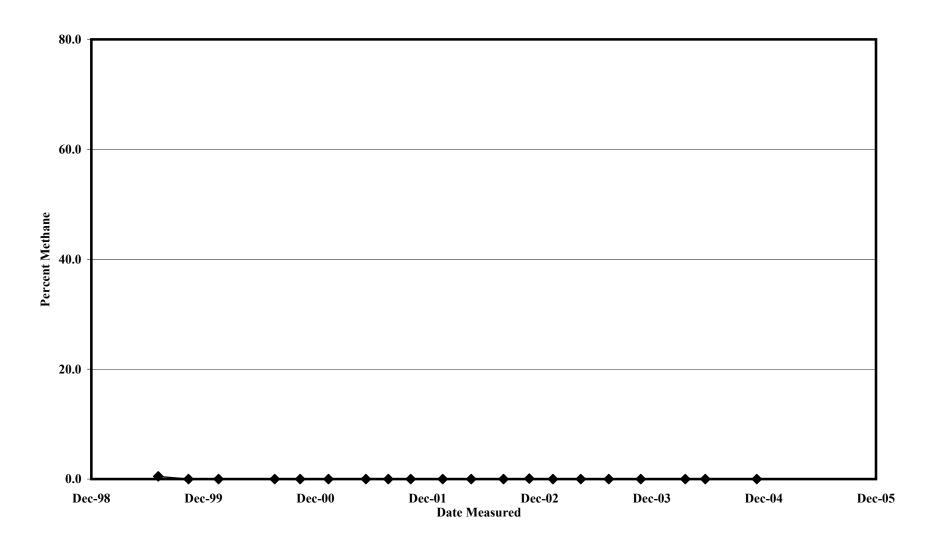


FIGURE F-4
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-4

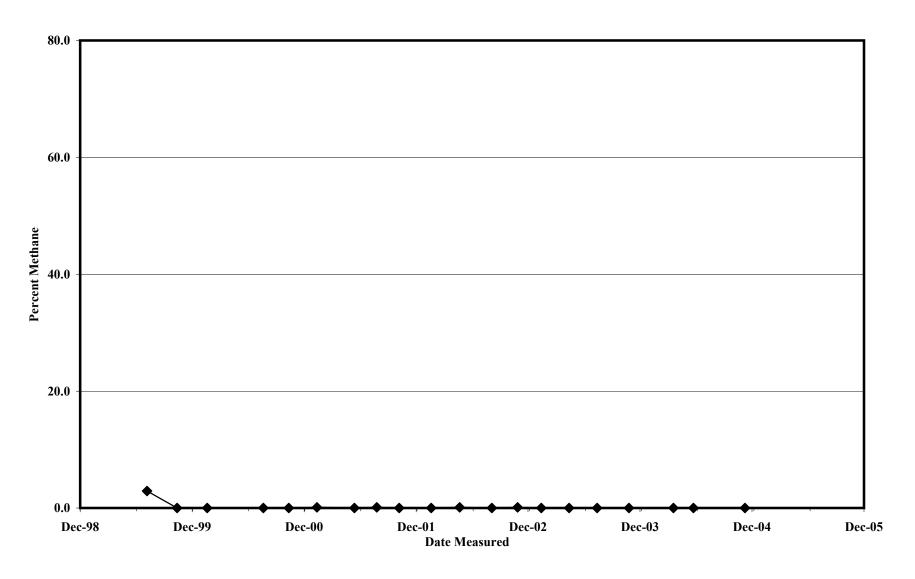


FIGURE F-5
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-5

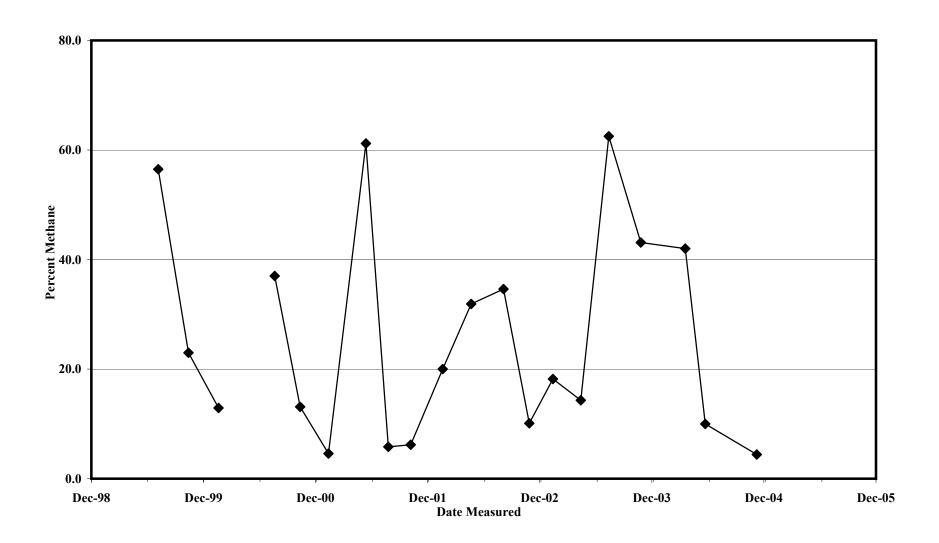


FIGURE F-6
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-6

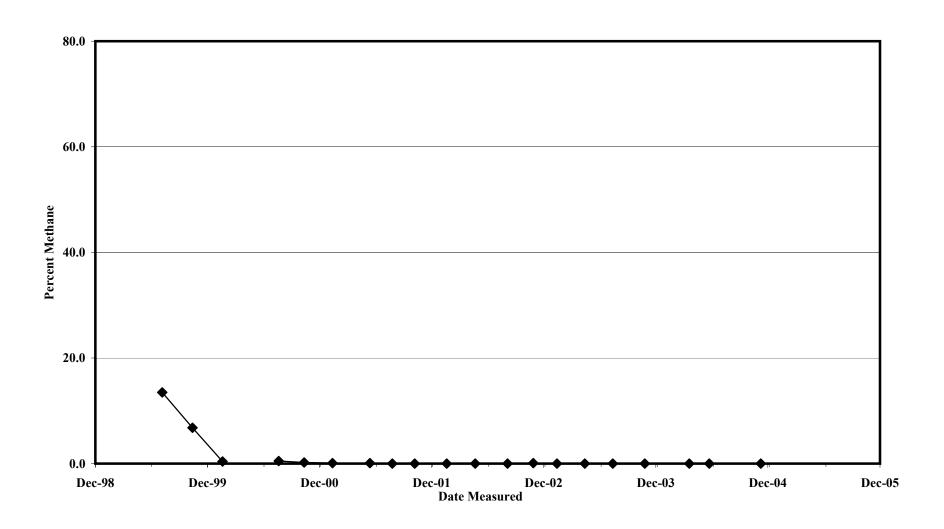


FIGURE F-7
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-7

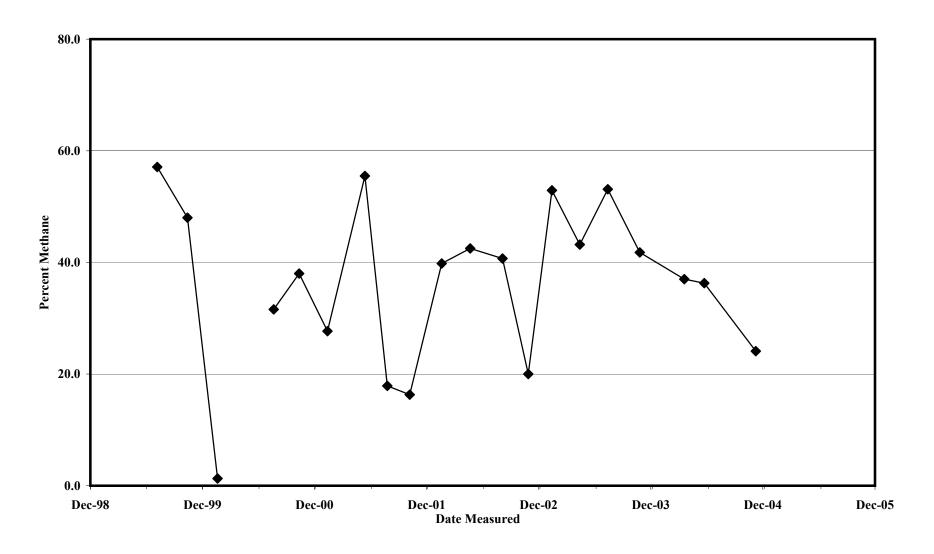


FIGURE F-8
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-8

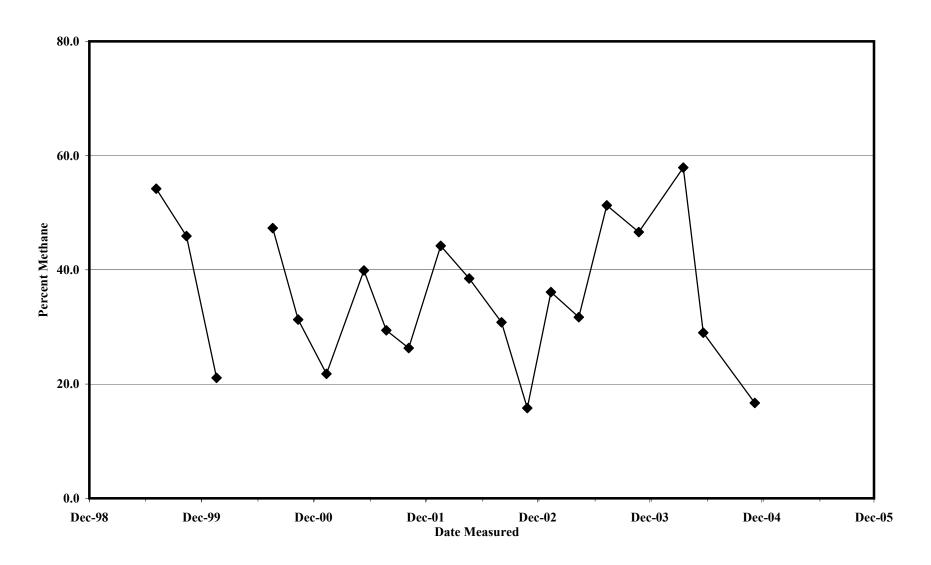


FIGURE F-9
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-9

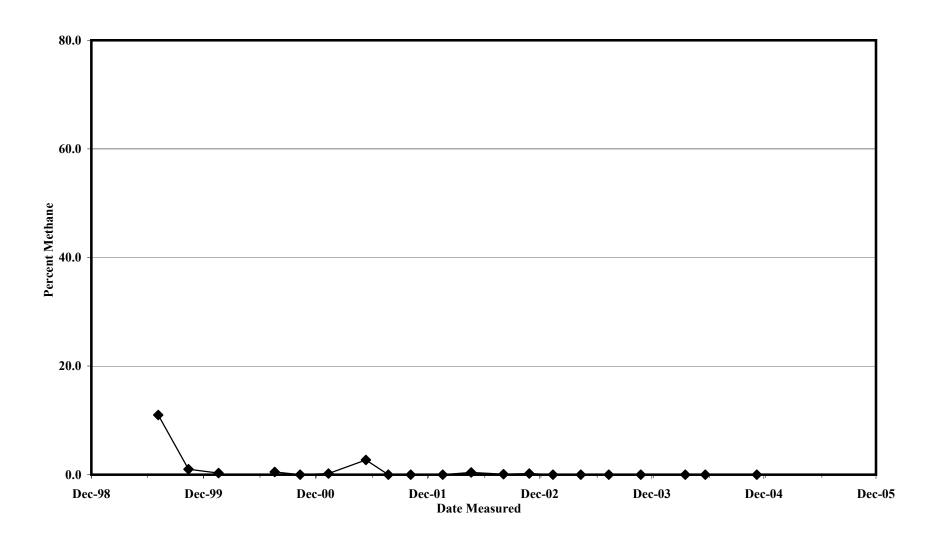


FIGURE F-10
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-10

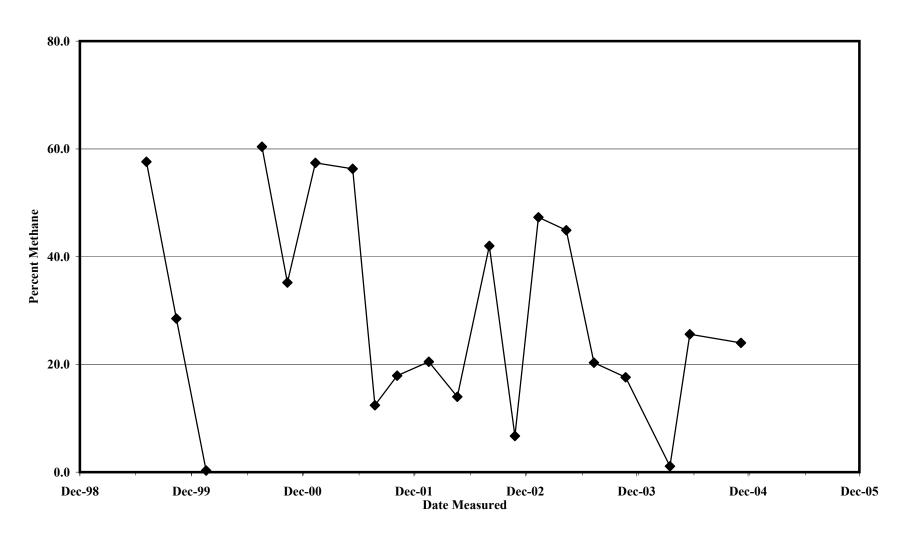


FIGURE F-11
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-11

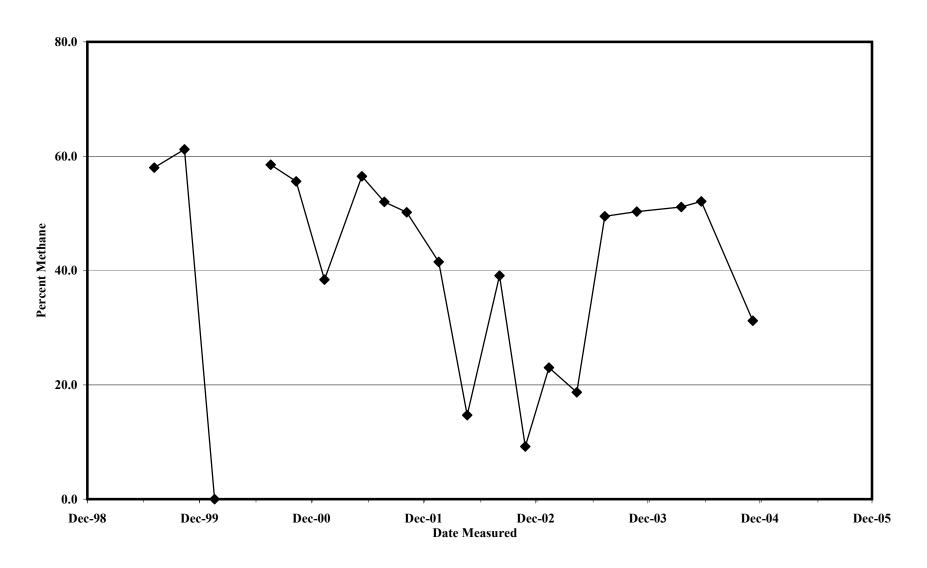


FIGURE F-12
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-12

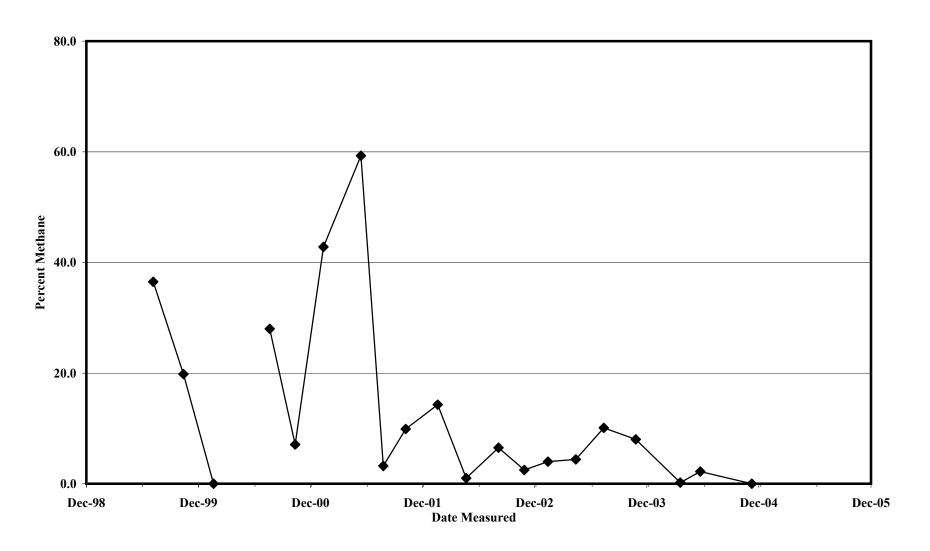


FIGURE F-13
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-13

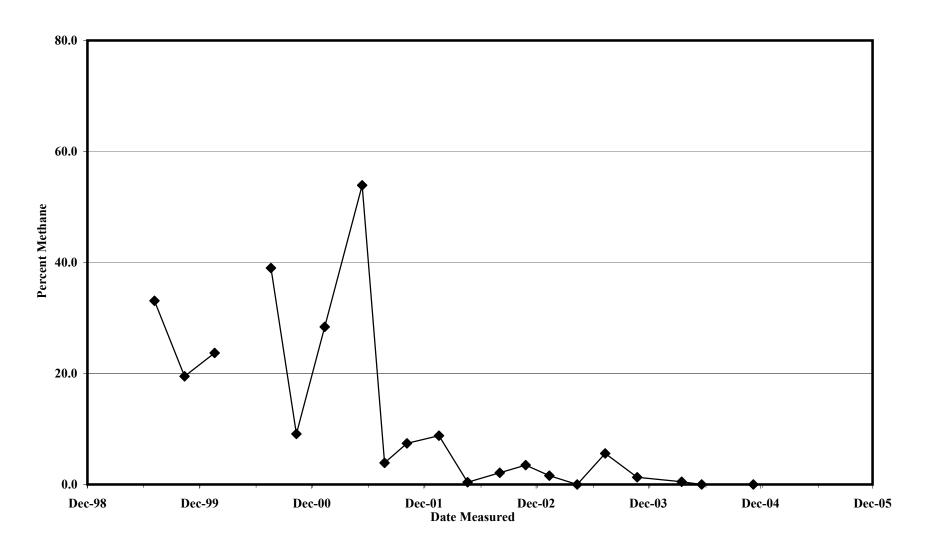


FIGURE F-14
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-14

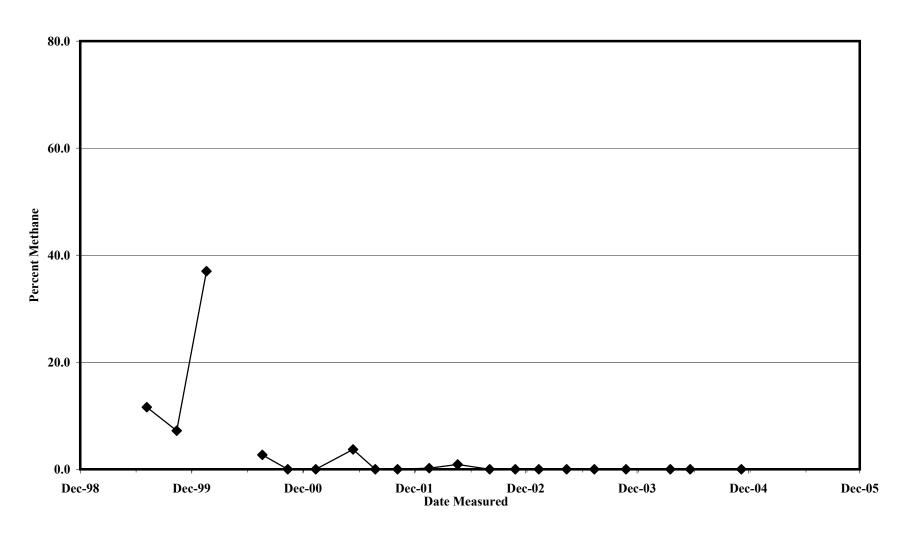


FIGURE F-15
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-15

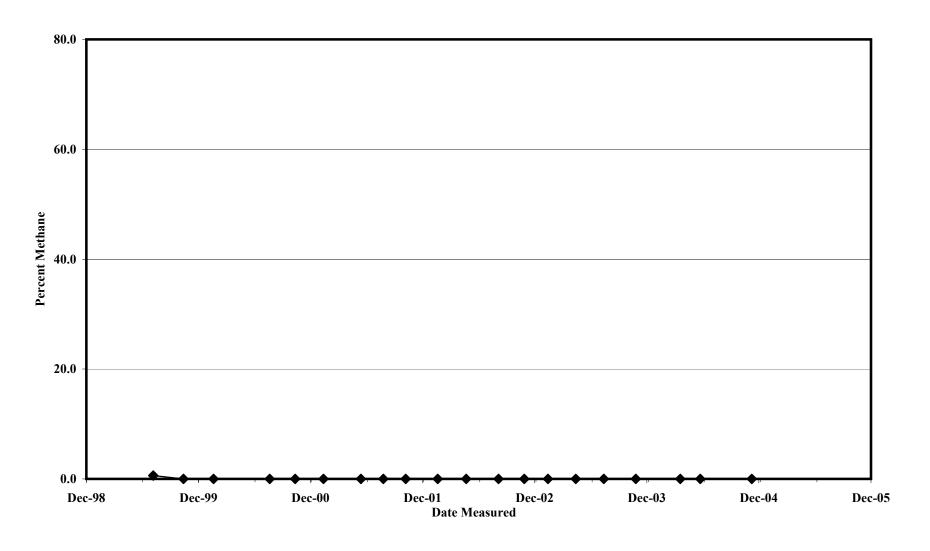


FIGURE F-16
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-16

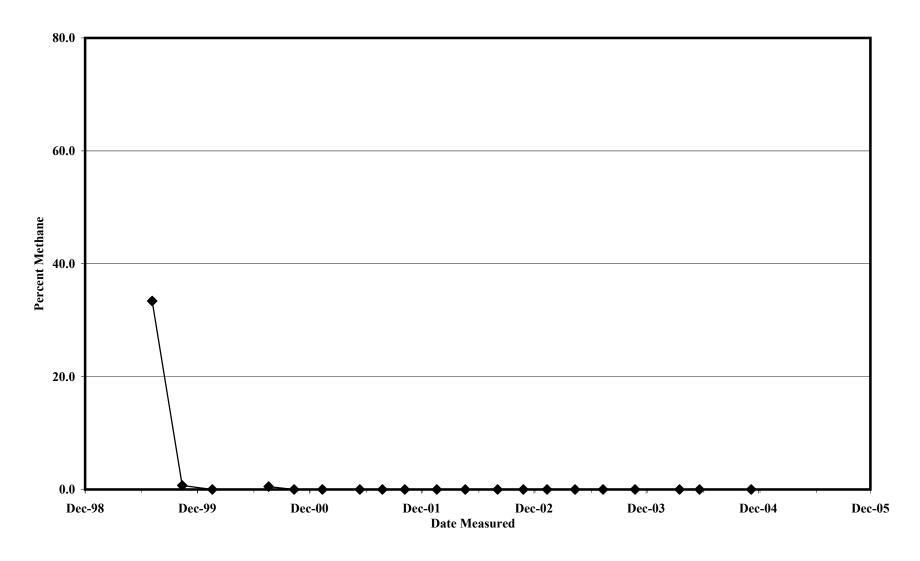


FIGURE F-17
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-17

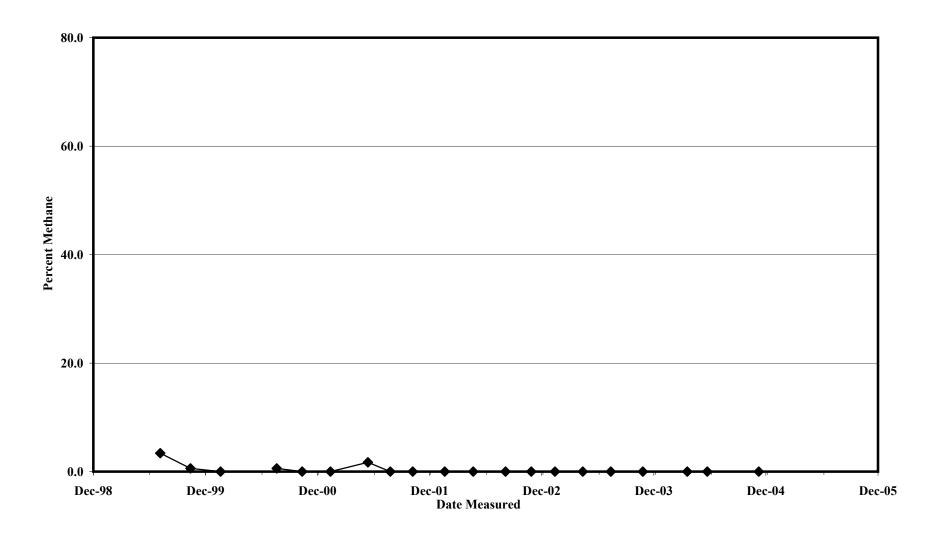


FIGURE F-18
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-18

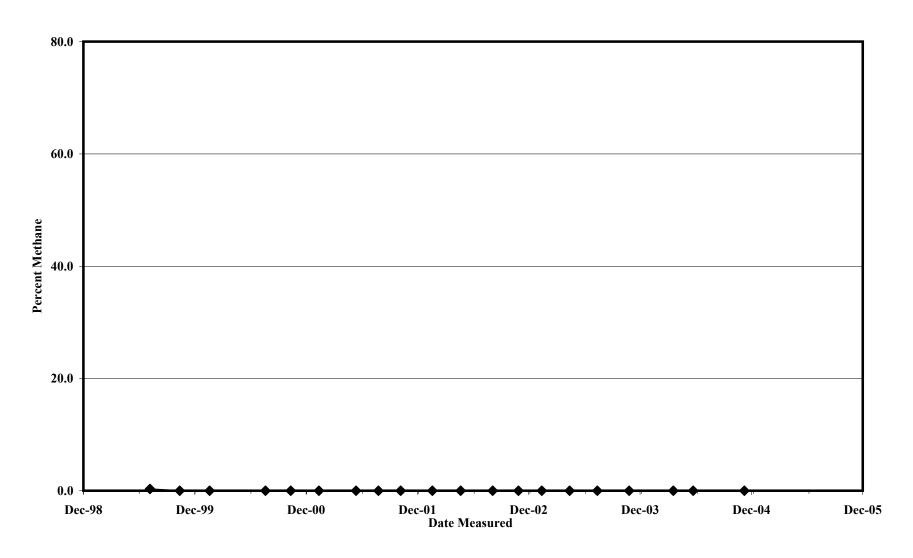


FIGURE F-19
TIME SERIES OF PERCENT METHANE PLOT, PASSIVE GAS VENT GV-19

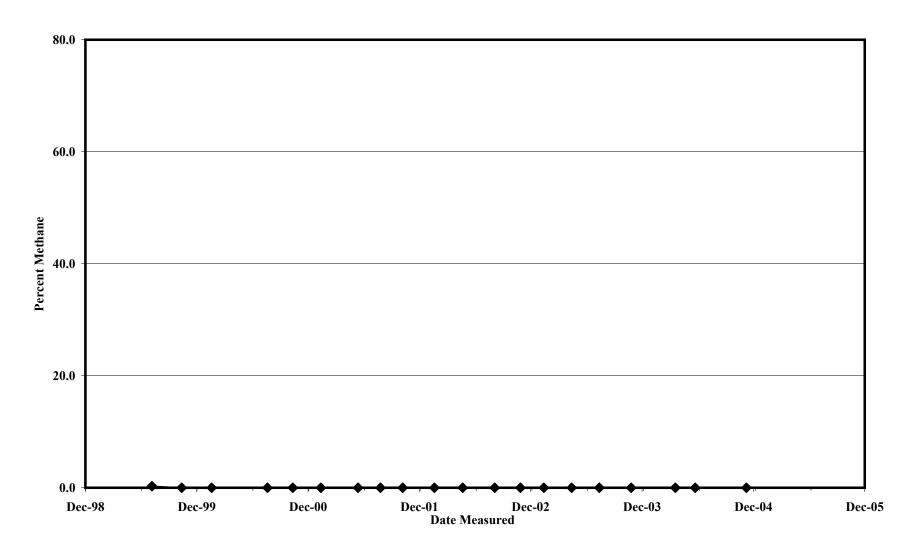


FIGURE F-20
TIME SERIES OF PERCENT METHANE PLOT, LANDFILL GAS MONITORING WELL LGMW1-1

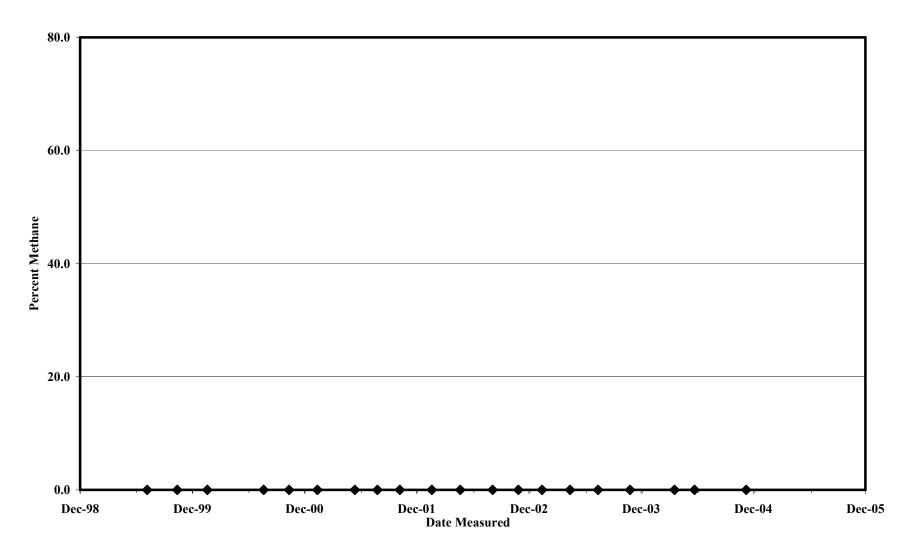


FIGURE F-21
TIME SERIES OF PERCENT METHANE PLOT, LANDFILL GAS MONITORING WELL LGMW1-2

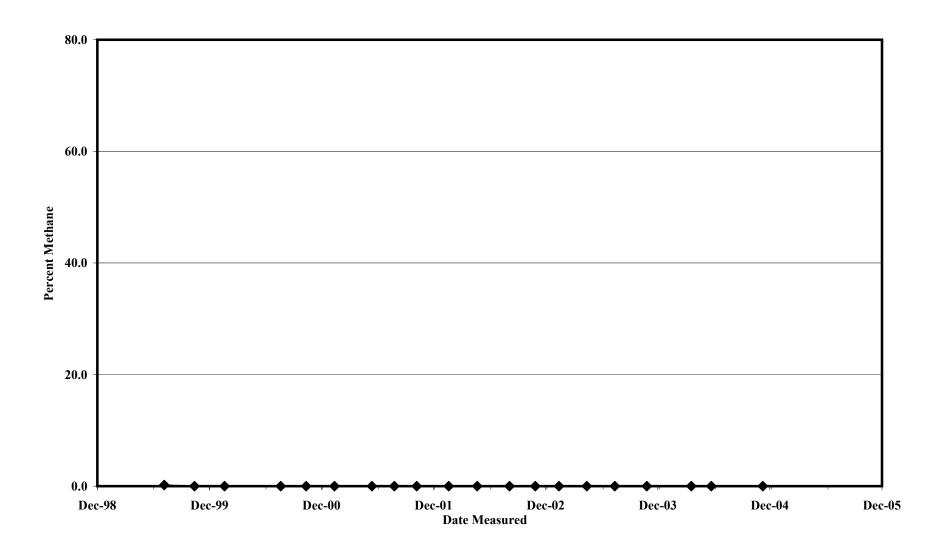


FIGURE F-22
TIME SERIES OF PERCENT METHANE PLOT, LANDFILL GAS MONITORING WELL LGMW1-3

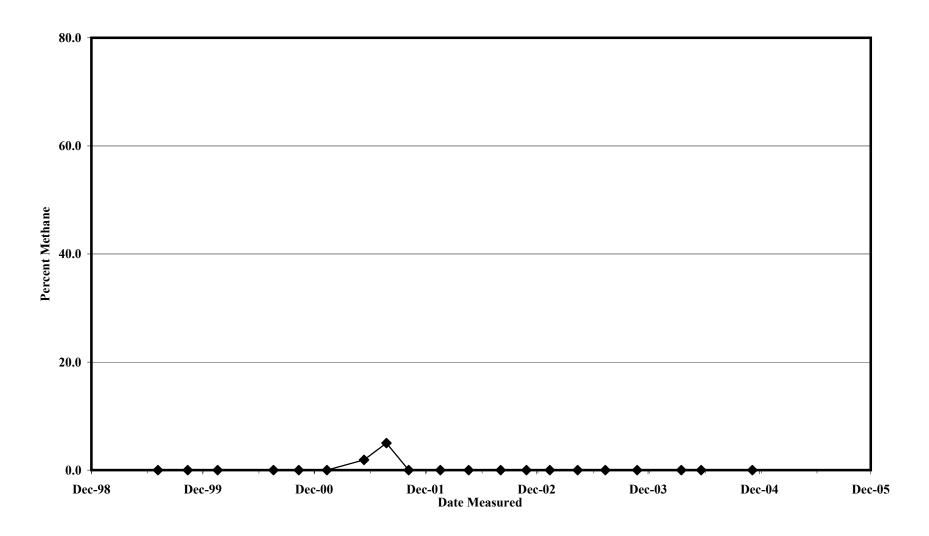
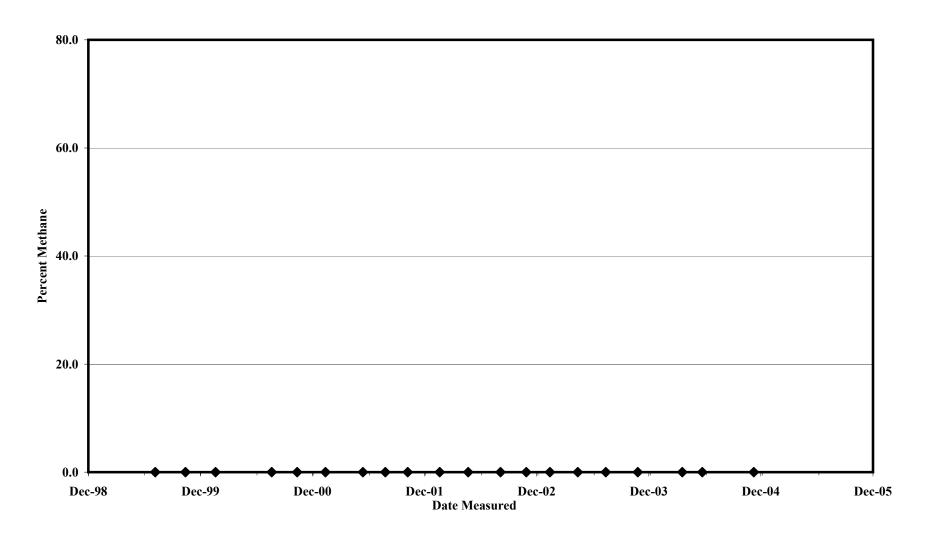


FIGURE F-23
TIME SERIES OF PERCENT METHANE PLOT, LANDFILL GAS MONITORING WELL LGMW1-4



APPENDIX G MONITORING WELL W1-1R DOCUMENTATION

TETRA TECH FW, INC.

LOG OF BORING W1-1R

SOSO	Drilling Samp Boreh Northi Eastir	g Company: West Hazmat g Method: Hollow Stem Auger Ding Method: Split-Spoon nole Diameter: 10 in. 0-25.5Ft. ing: (NAD83) ng: (NAD83) nd Surface Elevation: AMSL (NAVD88) If Casing Elevation: AMSL (NAVD88) LITHOLOGIC DESCRIPTION GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to coarse sand, trace of roots
CL	Samp Boreh Northi Eastir Grour	oling Method: Split-Spoon nole Diameter: 10 in. 0-25.5Ft. ing: (NAD83) ng: (NAD83) nd Surface Elevation: AMSL (NAVD88) of Casing Elevation: AMSL (NAVD88) LITHOLOGIC DESCRIPTION GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
CL	Boreh Northi Eastir Grour Top o	ing: (NAD83) ing: (NAD83) ind Surface Elevation: AMSL (NAVD88) of Casing Elevation: AMSL (NAVD88) LITHOLOGIC DESCRIPTION GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
CL	Northi Eastir Grour Top o	ing: (NAD83) ng: (NAD83) nd Surface Elevation: AMSL (NAVD88) of Casing Elevation: AMSL (NAVD88) LITHOLOGIC DESCRIPTION GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
CL	Groun Top o	ng: (NAD83) nd Surface Elevation: AMSL (NAVD88) of Casing Elevation: AMSL (NAVD88) LITHOLOGIC DESCRIPTION GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
CL	Grour Top o	and Surface Elevation: AMSL (NAVD88) of Casing Elevation: AMSL (NAVD88) LITHOLOGIC DESCRIPTION GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
CL	Top o	GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
CL	 	CRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
CL	Graphic Log	GRAVELLY LEAN CLAY, dark olive gray (5Y 3/2), moist, 70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
		70% fines with medium plasticity, 20% fine subangular gravel, 10% medium to coarse subangular sand FAT CLAY, black (5Y 2.5/1), moist, 90% fines with high plasticity, 10% fine subrounded gravel, trace of fine to
СН		plasticity, 10% fine subrounded gravel, trace of fine to
CL		GRAVELLY LEAN CLAY, dark olive gray to black (5Y 2.5/1 to 5Y 3/2), moist, 70% fines with medium plasticity, 20% fine angular to subrounded gravel, 10% fine to coarse sand, no roots
CL/ML		SILTY CLAY with SAND, olive brown (2.5Y 4/3), moist, 85% fines with low plasticity, 10% fine to coarse sand, 5% fine angular to subrounded gravel CLAYEY SILT with SAND, olive brown (2.5Y 4/3), moist, 70% non-plastic fines, 20% fine to coarse sand, 10% fine angular to sub rounded gravel
SM		SILTY SAND, olive gray (5Y 5/2), wet, 60% fine sand, 40% non-plastic fines
	1	END OF BORING AT 25.5 FT.
		W1-1R surface completion consists of a 5' x 10" round steel protective casing with an outer locking cap that extends approximately 2.9 ft. ags. The protective casing is set in a 2' x 2' concrete pad with four bollards surrounding it.
	Coordin	

ORIGINAL File with DWR Page of Owner's Well No. Date Work Began Local Permit Age	W1-18 8-13-04, Ency (CUWD)	VELL COMPLETION IN STATE OF CALLES VELL COMPLETION IN STATE OF CALLES OF CAL	ON REPORT Pamphlet 981 ,	DWR USE ONLY — DO NOT FILL IN — STATE WELL NO./STATION NO. LATITUDE LONGITUDE APN/TRS/OTHER][
ORIENTATION (\leq)	OHWOSTT GEOLOGIC LO VERTICAL HORIZO	G	Name_ U.S. N	AVY WELL OWNER	_
DEPTH FROM SURFACE Ft. to Ft.		FLUID NA CRIPTION , grain size, color, etc.	Mailing Address 1 SAV DIEGO	ZZO PACIFIC HIGHWAY CA 92132 STATE ZIP	-
0 15.5 15.5 17		DAVEC, ISLACK DITH SAND OLIVEBEN	City MOFFE		
17 Z1 21 Z515	CLAYEY SUT WI SILTY SAND	TH SAND OLIVE BEN OLIVE GRAY	APN Book 116	Page 18 Parcel 008	-
-1		The same and the s	Latitude 37, 25	Range ZW Section 10 16.9 NORTH Longitude 122, 03, 05 WEST DEG. MIN. SEC.	-
1			LOCAT	NORTH ACTIVITY (\(\times\) NORTH MODIFICATION/REPAIR Deepen	
. 1			//	PEHMETEZ — Deepen — Other (Specity) DESTROY (Describe Procedures and Materials	-
1		5.4000		Under "GEOLOGIC LOG PLANNED USES (∠) WATER SUPPLY	7
			SITEIL	AND FILL Domestic Public Irrigation Industria MONITORING X TEST WELL	,ı -
				CATHODIC PROTECTION HEAT EXCHANGE	-
			WELL PERLY	DIRECT PUSH	-
			Illustrate or Describe Disa Fences, Rivers, etc. and a necessary. PLEASE BE &	SOUTH REMEDIATION REMEDIATION Thruce of Well from Roads, Buildings, track in map. Use additional paper if ACCURATE & COMPLETE.	-
			DEPTH TO FIRST WATE	LEVEL & YIELD OF COMPLETED WELL ER	
			DEPTH OF STATIC S WATER LEVEL	NA (GPM) & TEST TYPE NA	- -
TOTAL DEPTH OF	BORING Z55 (Feet) COMPLETED WELL Z	トラ (Feet)	1 .	(ft.) (Ars.) TOTAL DRAWDOWN D.T. (ft.) ntative of a well's long-term yield.	
DEPTH FROM SURFACE	BORE- HOLE TYPE(스)	CASING (S)	E SLOT SIZE	DEPTH ANNULAR MATERIAL TYPE	_
FL to FL	SCREE SCREE	MATERIAL GAUG GRADE DIAMETER (Inches) THICKNE	LL IF ANY ESS (Inches)	Ft. to Ft. (\preceq) (\preceq) (\preceq) FILL (TYPE/SIZE)	_
0 14.3 14.3 24.3 24.3	10 X PV	CWREWAR 4 40 PVC 4 40	0.010	0 11.2 13.3 V 11.2 13.3 V 13.3 25.5 V 2//2.5A	Þ
1					
	HMENTS (\succeq)	i, the undersigned, certify that		ION STATEMENT — I	
	c Log nstruction Diagram sical Log(s)	NAME TETZA (PERSON, FIRM, OR CORPORATION	CH FW (TYPEO OR PRINTED)	DC.	_
Other _	ter Chemical Analyses	ADDRESS Signed	FOZ WEST L	AZMAT 10.8.04 SHATELO CA. 9210 AZMAT 10.8.04 STATE 819548	_
ATTACH AUDITIONAL	INFORMATION, IF IT EXISTS.	WELL DRILLER/AUTHORIZED REPR	ESENTATIVE	DATE SIGNED C-57 LICENSE NUMBER	



WELL CONSTRUCTION COMPLETION NOTICE

FCE 158A (09-05-02)

Inspector: Thiemann	Date of Inspection: 3/04 Permit: 04W00577				
Well Owner: U.S. Navy Owner Well No	Well Registration No.: (%562W//C023				
Address of Well Site Rd E/C Zock	Meffett Field City or County:				
Drilling Company: Anterica Consultant:	etra Tech FW				
Cond. Bore: Conductor Depth: Conductor Diameter & Material:	TD: 25.5 Boring Diameter: 10" BOC: 24.8				
Casing Diameter Slot Slot Size: O/O Screen Interval(s): Wire I	Nrap PVC 24.8-14.3				
Filter Pack Material: Filter Pack Interval(s): 25 5	Bểnt: Seal Depth:				
Sealing Material: Neat Cement 10 Sack Sand Slurry	Drilling Method: ☐ Mud rotary ☐ Other (See				
☐ Bentonite Slurry ☐ Other (See Comments)	☐ Direct Push ☐ Air Rotary Comments)				
Well Type: GW Monitoring GW Extraction Vadose Monitoring Vadose Extraction Cathodic					
☐ Domestic ☐ Agricultural ☐ Municipal/Industrial ☐ Elevator ☐ Other (See Comments)					
Well constructed according to provisions of Santa Clara Valley Water District Permit? Yes No (See Comments)					
Well Location: 124 ft. N / S: NE/O N. Perimeter Rd ft. E / W:					
GPS Coordinates - Lat: 3 25 46,758 / Long: /22 03 05,05/					
Comments: 1496 feet NNW/O N Patrol Rd					
N Pareneter AKA BOOK					
Distribution: ORIGINAL-Permit File; YELLOW-City/County; PINK-Well File; GOLDNENROD-Permittee					

COAST SURVEYING, INC.

15031 PARKWAY LOOP, SUITE B, TUSTIN, CA 92780-6527 • (714) 918-6266 • FAX (714) 918-6277 MOFFETT FEDERAL AIRFIELD MONITORING WELLS

Date Surveyed: November 17, 2004

Station ID Northing Easting Elevation Elevation Elevation Elevation Measure Point Steel Casing Ground Concrete Pad W1-1R 1982659.55 6111220.30 7.52 7.91 4.9 5.28

NOTE: The measure point is an ink mark on the top, north side, of the 3" PVC well casing.

Coordinates are CCS NAD 83, Zone 3, U.S. Survey Feet.

Elevations are NAVD 88, U.S. Survey Feet.

Positions were determined using NASA Ames Research Center Control Monument ARC-32, a disc set flush in concrete, 6.5' north of northeast edge of pavement (Patrol Road) and 75' east of Perimeter Road, and 2.5' west of chain link fence.

Coordinates and elevations provided by Tetra Tech FW, Inc. for "NASA ARC-32" are:

Northing Easting Elevation 1981291.82 6111764.27 1.85

Prepared by me or under my direct supervision this 23rd day of November, 2004.

RUEL DEL CASTILLO, PLS 4212 REGISTRATION EXPIRES 6/30/06





WELL DEVELOPMENT LOG

Page: of

Date:

	Project Name: oject Number: Date: Field Staff:	8/16/2	086E 2004	W	Vell Number: Equipment:		
Depth to Wa		<u> </u>	В			ence Point	After 8.48
Depth to Sec	diment (ft):			27.5	T	TOC	27.51
Thickness of	f Sediment (ft)):		0.01			0
Total Depth	of Well (ft):		2	27.51			
_	Well Casing ((ft):		0.33			
	mn Height (ft):	` ′		19.04			
	• , ,	-	n. Of Casin	ng/2) ² (Water Colu			12.56
						urged (gallons):	120
				Number	of Casing Vo	olumes Purged:	9.55
Time	Pump Rate (gpm)	Purge Vol. (gallons)	pН	Temperature (°C)	Turbidity (NTUs)	Conductivity (umhos)	Comments
1315	0.2	-	6.60	22.7	992.0	31.0	Very Cloudy
1320	0.2	-	6.49	22.5	196.0	31.0	Surging the Casing
1325	0.2	-	6.41	21.5	92.0	32.0	Clearing
1330	0.2	-	6.40	21.0	87.0	32.2	
1335	0.2	-	6.43	22.1	89.0	31.8	
1340	0.2	-	6.44	22.0	100.0	31.4	
1345	0.2	-	6.46	22.2	112.0	31.2	
1350	0.2	-	6.42	21.8	24.0	31.4	Very Clear
1355	0.2	-	6.41	22.0	13.0	31.5	
1400	0.2	-	6.41	21.8	13.9	31.4	
1405	0.2	-	6.41	22.0	13.2	31.7	<u> </u>
	 	 		 /		 	
	 	 		<u> </u>	 	 	<u> </u>
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Notes:	TOC is temp	orary					
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<u> </u>							_
			W-11 C	77 - 1 - ma o o	/ 11 /£a a.t.)		
ĺ		1 1/4" - 0.0		Casing Volumes (,	! = 1.5 8" = 2.60	

Santa Clara Valley Water District 5750 Almaden Expressway, San Jose, CA 95118 (408) 265-2600

WELL CONSTRUCTION APPLICATION

FC 158 (12-16-02) Page 1 of 2

	TO BE COMP	LETED BY DISTRICT			
District Permit No.: 04w00577	Date Issued:	-11-04	Well Registration No.:		
Geologic Setting:	Expiration Date:	1-11-05	Driller's Log No.: 0 15 981		
TO BE COMPLETED BY OWNER AND DRILLER					
Well Owner: U.S. Navy			Name of Business at Well Site:		
Well Owner's Mailing Address: 1220 Pacific HighWAY	Property Owner's Mailing Address: NASA MIS 218-1		Address of Well Site: Site Land III City, State, Zip A Orloan		
San Dipan, CA 92132-5190	Near, CA 92132-5190 City, State, Zip Moffelf Field, CA 94025				
Telephone No. & Contact Name: Rick Weissenbern 69-532-0952 Don Chuck 650-604-0			Moffett Field, CA 94035 Telephone No.:		
Owner's/Consultant's Well No.: WI-IR			Assessor's Parcel Number of Well Site: Book: 116 Page: 18 Parcel: 008		
Consultant (Company): Tetra Tech FW	inc.	Drilling Company: We.	st Hazmat		
Address: 1230 Columbia Street, S		Address: 1016 FNG	- Katolla Avenup		
City, State, Zip Gan Diego, CA 92		City, State, Zip Anahei	M, CA 92805		
Telephone No.: 619-471-3525		Telephone No.: 714 -939 -6850			
☐ Check if address or phone number has chang	ed	Check if address or phone number has changed			
THIS SECTION TO BE COM	THIS SECTION TO BE COMPLETED FOR ALL MONITORING WELLS OR EXTRACTION/RECOVERY WELLS CASE NAME: Former NAS Moffett Field				
Oversight Agency: EPA / RWACB	•	C.V.W.D oversight, list Case I	Numbers		
Type of monitoring device: Groundwater Vadose January Holland					
Signature of Responsible Professional					
Monitoring well use: Depth Quality Chloride (No substitution of signature will be accepted)			tution of signature will be accepted)		
Nested Well: Yes Mo	y Chionac	Dennis	Goldman		
Note: If Nested Well is proposed, a separate per	mit is needed for		Print Name		
each casing.		Registration No. Civil Engir	neer OR Registration No. Geologist		
		□ 50±-000 # □	Over 200 ft Other:		
Zountatod Dopar or Compress	Estimated Depth of Completed Well: Less than 50 ft. 50 to 300 ft. Over 300 ft. Other: Oth				
Purpose of Well: Domestic Municipal *Monitoring wells are those constructed for the pu	armuusmar 🔛 Ayr urpose of obtaining ren				
Well is to be Constructed: In a public sideway					
Within 50 ft. of the top of a creek*	☐ Yes 🗹	No Within 50 ft. of any e	xisting well Yes No		
Within 50 ft. of sanitary sewer	☐ Yes 🗹	No Within 150 ft. of a co	esspool or seepage pit 🔲 Yes 💆 No		
Within 100 ft. of a pit privy, septic tank, leachfield	☐ Yes 🗹	No Other wells exist on	this property? ☑ Yes ☐ No		
*See General Condition E, page 2.		Status:	Active		
CERTIFICATION BY WELL OWNER/AGENT AND DRILLER/AGENT I certify that the information given above is correct. I certify that the well will be constructed in compliance with the conditions of this permit (See Page 2), and Santa Clara Valley Water District Ordinance 90-1. I also certify that a right of entry/encroachment agreement has been formalized between the well owner and property owner, if parties differ. I understand that it is my responsibility as the well owner, to notify this District of any changes in the purpose of this well, from that, which is indicated on this application. NOTE: All applicable signatures must be present before permit will be processed.					
DNAG M. CHUCK Signature of Property Owner/Agent Date Date Douage M. CHUCK Print Name of Property Owner/Agent					
Signature of Property Owner/Agent		Date	Print Name of Property Owner/Agent		
L. Museul		8/04/01	Print Name of Well Owner/Agent		
Ofgrhature of Well Owner/Agent	· at	Date /	BRY LE BARTEMA		
Signature of Well Driller/Agent		73-07 Date	Print Name of Driller/Agent		
Signature of Well Difficit/Agent		1 64375560	The second secon		

WELL CONSTRUCTION APPLICATION

Santa Clara Valley Water District 5750 Almaden Expressway, San Jose, CA 95118 (408) 265-2600

C 158 (12-16-02) Page 2 of 2

DISTRICT WELL PERMIT NO .: _04W00577

Based on information on this application and attachment(s) hereto (if any) and subject to approval noted below, permission is hereby granted to construct (drill) the described well. Permission to start work may be withheld until a field check verifies all statements made on application by Permitee and is also subject to the "General" and "Special" Conditions stated below.

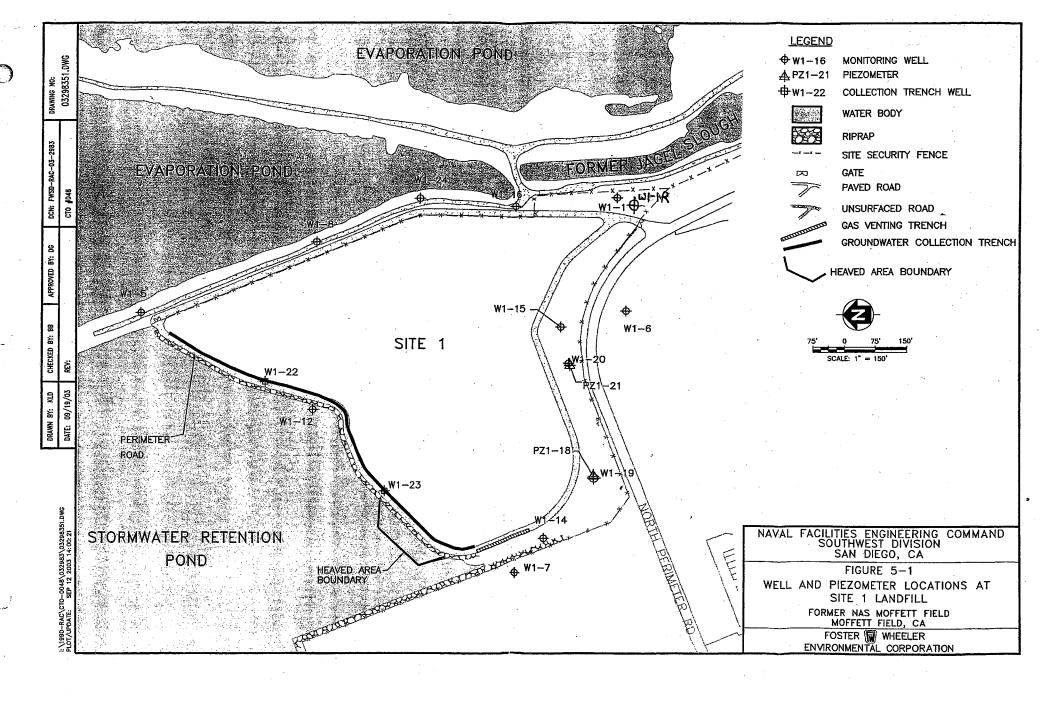
COUNTY OF SANTA CLARA DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVAL Domestic Water Supply Wells Only (Note: D. E. H. Approval must be granted before this application will be accepted by S.C.V. Date: Approved By: , R.E.H.				
Approved As Submitted: Approved As Cor	rrected:			
SITE PLAN A SITE PLAN MUST BE ATTACHED TO THIS APPORT THE SITE PLAN MUST BE SUBMITTED ON 8 ½" THE SITE PLAN MUST CONTAIN: 1. Location of site features, including major building. 2. North arrow and scale. 3. Location of proposed well with dimensions in features.	X 11" PAPER ings, landscaped areas, tank fields, existing wells, etc.			

GENERAL CONDITIONS

- A. SCVWD (Telephone 408-265-2607, Ext. 2660) MUST BE NOTIFIED A MINIMUM OF ONE WORKING DAY BEFORE CONSTRUCTION OF THE ANNULAR SEAL. An authorized District representative must be on site to witness the construction of the annular seal. This requirement may be waived by an authorized District representative. If the District waives the inspection requirement, the District may request the Permittee(s) to furnish certification, under penalty of perjury, that the well was constructed in accordance with the District Well Standards and with the permit conditions.
- B. This Permit is valid only for the purpose specified herein. Well construction methods authorized under this Permit may not be changed except by written approval of an authorized District representative, and only if the District believes that such a change will result in equal or superior compliance with the District and State Well Standards (e.g. if the District representative finds that site conditions warrant such a change).
- C. This Permit is only valid for the Assessor's Parcel Number indicated on it.
- D. This Permit may be voided if it contains incorrect information. If the permit is voided after work has begun, the well or boring that was constructed under this permit must be destroyed in accordance with District and State Well Standards.
- E. If any work associated with this permit will take place within 50 feet of the top of the banks of a stream, water course, or on SCVWD Property, an encroachment or construction permit must be granted by the District's Community Projects Review Unit (telephone 408-265-2607 Ext. 2589).
- F. Before the well constructed under this permit can be used as a drinking water source, its use must be approved by the regulatory agency with authority over such use (typically the Santa Clara County Department of Environmental Health or the State of California, Department of Water Resources, Office of Drinking Water).
- G. If the well constructed under this permit cannot be or is not being used for its intended purpose, permittee is hereby required to destroy the well according to the District Well Standards and under permit from the District. Any test holes drilled under this permit must be destroyed within 24-hours of completion of testing activities. Destruction activities must be completed according to SCVWD standards. SCVWD must be notified a minimum of 24-hours prior to destruction.
- H. Within 60 days of the completion of the well construction activities, the driller or consultant identified on this permit shall fully complete State of California DWR Form 188 and mail the original to the District's Wells and Water Production Unit.
- I. The Permittee(s) shall assume entire responsibility for all activities and uses under this Permit and shall indemnify, defend, and hold the District, its officers, agents, and employees, free and harmless from any and all expense, cost, and liability in connection with or resulting from, the granting or exercise of this Permit including, but not limited to, property damage, personal injury, and wrongful death.
- J. Permittees are required to be in full compliance with Cal/OSHA California Labor Code Section 6300.
- K. A current C-57 Water Well Drilling Contractor's License is required for the construction of all wells.
- L. Permittee, permittee's contractors, consultants or agents shall be responsible to assure that all materials or waters generated during drilling, well construction, well development, pump testing, or other activities associated with this Permit, will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on- or off-site storm sewers, dry wells, or waterways. Such materials/waters must not be allowed to move off the property where the work is being completed.
- M. The driller and consultants (if applicable) shall have an active copy of their Worker's Compensation Insurance on file with District.
- N. This Permit shall expire if not exercised within 180 calendar days of its approval, unless an extension of the permit expiration date is granted by an authorized District representative.

Ο.	This permit must be kept on-site during the completion of all activities associated with it and shall immediately b	e presented to an
	authorized District representative upon request.	

Special Conditions:	
Community Projects Review Unit Approval: (if needed)	CPRU Permit No.:
Approved By:	Date:
in the control of the	



APPENDIX H

2004 SANTA CLARA COUNTY LANDFILL INSPECTION REPORTS AND GENERAL SITE INSPECTION REPORTS

2004 SANTA CLARA COUNTY LANDFILL INSPECTION REPORTS

Closed Site Inspection Report

CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

Enforcement Agency:		Department of Environmer	ital Health - LEA	Page 1 of 1
FACILITY FILE NUMBER	PROGRAM CODE	INSPECTION DATE	TIME IN 10:00 AM	INSPECTION TIME
43-AA-0005	LOCAL = L STATE = S	2/18/2004	TIME OUT	2 hours
FACILITY NAME	ETT FIELD. Sites 4 900		RECEIVED BY (OPERATOR) Day & Munelly	un ROICE SFO,
FACILITY LOCATION	ETT FIELD - Sites 1 &22	Closed Landfills	OWNER Primely	ing, Tolle Iral
(MCDECTOR	Moffett Blvd., Mt. View, C	A O	United States	s Government
INSPECTOR Chris Rummel, R.E.	H S	/ VI/	ALSO PRESENT	
THE ABOVE FACILITY WAS INSPECTED FOR C		NS OF DIVISION 30 OF THE PUBLIC RESOL	Mary Parker of Williams CODE (PRC) and TITLE 27 CALLED PA	son Doctor-NAVFA
THE STANDARDS BELOW ARE CONSIDERE	ED IN COMPLIANCE UNLESS OTHERV	ISE MARKED WITH ONE OF THE FOLLO	WING: V = VIOLATION A = AREA OF COL	NCERN NA - NOT ARRIGARIE
		SUBJECT TO ARTICLE 2 STANDA		NOCERN NA = NOT APPLICABLE
				V A NA
20530 - SITE SECURITY				
20650 - GRADING OF FILL SURFACES 20750 - SITE MAINTENANCE				
20790 - LEACHATE CONTROL			******	
20820 - DRAINAGE / EROSION CONTROL	**			
20830 - LITTER CONTROL				
20919 - GAS CONTROL				
21190(c) - POSTCLOSURE LAND USE				
OTHER				

COMMENTS (USE SWIS-43 FOR ADDITIONAL SPACE)				
<i>II</i>	encies to repo ection of gas	lonitoring Rept.	ere consistent with gas wells +sai full of water.	
DOCUMENTS RECEIVED SINC	E LAST INSPEORTON 11/2	2/0#3		
(1) Final- Third quarter 2003 - M			20.16.2002	
(2) Draft - Remedial Action Repo	rt for Installation Postoratio	o Report for one 1, Nev. 0, Di	- 00, 2000	
(2) Brain Homodal Floaton Hopo	TO INSTAILATION NESTONALIO	or Site 22 Landilli, Rev. U. De	C. 23, 2003	
SPACE FOR ADDITIONAL COMMENTS, DIAGRAM	IS, OR NOTES.			
		•		
			÷	
NOTHINITIE!				
DISTRIBUTION:	TOP - CIWMB	MIDDLE - EA	BOTTOM - OPERATOR	

DISTRIBUTION:

TOP - CIWMB

Closed Site Inspection Report

CALIFORNIA INTEGRATED WASTE

CIWMB-55 (9/97)		•		MANAGEMENT BOARD
Enforcement Agency: Santa C	lara Country t	sept of Environme	outal Hoalth	Page) of [
FACILITY FILE NUMBER	PROGRAM CODÉ	I INSPECTION DATE	TIRET IN	INSPECTION TIME
12 11 110	LOCAL = L STATE = S	MM DD YY	10,30	
43-AA-0005	L	05-19-04	TIME OUT 12: 15	
FACILITY NAME			RECEIVED BY (OPERATOR)	
NASA/Mo	FFETT FIELD	-D-Sites 1422	May 1 Mind	Cano
FACILITY LOCATION Mo	00 11 -	CAI	OWNER	
INSPECTOR _	Hett Field,	C/T L.		ernment
	INSPECTOR SIGN	VALUE D	ALSO PRESENT	
Chris Kumme	TI, KENDI LIK	res summer		
THE ABOVE FACILITY WAS INSPECTED FOR COM	PLIANCE WITH APPLICABLE SECTIO	NS OF DIVISION 30 OF THE PUBLIC RESOURCES	CODE (PRC) and TITLE 27 CALIFORNIA	A CODE OF REGULATIONS (CCR).
THE STANDARDS BELOW ARE CONSIDERED I	N COMPLIANCE UNLESS OTHERV	VISE MARKED WITH ONE OF THE FOLLOWING	G: V = VIOLATION A = AREA OF COM	NCERN NA = NOT APPLICABLE
	SITES NOT	SUBJECT TO ARTICLE 2 STANDARDS		
				V A NA
20530 - SITE SECURITY				
20650 - GRADING OF FILL SURFACES				
20750 - SITE MAINTENANCE			····	
20790 - LEACHATE CONTROL				
20820 - DRAINAGE / EROSION CONTROL				
20830 - LITTER CONTROL			· · · · · · · · · · · · · · · · · · ·	
20919 - GAS CONTROL				
21190(c) - POSTCLOSURE LAND USE				
OTHER				
COMMENTS (USE SWIS-03 FOR ADDITIONAL SPACE)				
turf side slope	releasing plast	. 1	placed at tran. litch. Inquiry	sition between was made
Documents receiv	ed to last a	initor:		
			I C	1 1 10 10 20
	r 2003 Mor		nance Rept-Si	
(2) Final-Tech, Memor	andum Site 1	Groundwater Eval	uotion Process,	April 8,2004
			7	
			· · · · · · · · · · · · · · · · · · ·	
SPACE FOR ADDITIONAL COMMENTS, DIAGRAMS,	OR NOTES.			
		.*		

MIDDLE - EA

BOTTOM - OPERATOR

Closed Disposal Site Inspection Report

Enforcement Agency:

Santa Clara County, Department of Environmental Health - Local Enforcement Agency

Page 1 of 1

BACILTY/FILE NUMBERION ST	PROGRAMOODE		NSPERTION DATE:	TIME IN 10:210	INSPECTION TIME	
43-AA-0005	OCALEILISTATEES LOCAL = L	евени — 22	DD Y	10,40	MOI LOTION TIME	E
43-74-0003		<u> </u>	8/18/04	TIME OUT 12:20	<u> </u>	
FACILITY NAME	NASA/MOFFETT F			RECEIVED BY (OPERATOR)	kawn	
FACILITY LOCATION		ffett Field, (CA	OWNER / / / United States	Government	
INSPECTOR Chris Rummel, R.E.H	INSPECTOR SIG		. 7	ALSO PRESENT	010	
				Dave Smith, Bill	Ogle	
THE ABOVE FACILITY WAS INSPECTED FOR THE STANDARDS BELOW ARE CONSIDE						
হতপ্রতিরাধন				ON CONTROL		
20750 - SITE MAINTENANCE			20820 - DRAINAGE/ERO			A
21180 - POSTCLOSURE MAINTENANCE	-		21150 - DRAINAGE/ERC			+-
21190 - POSTCLOSURE LAND USE			MONITORING AND CON		Sec. Sec.	100
CASIMONITORING AND CONTROL SYA 20918 - EXEMPTIONS	MILLIS		20790 - LEACHATE CON			
20919 - GAS CONTROLS			20830 - LITTER CONTRO			
20919.5 - EXPLOSIVE GAS CONTROL		 		OL/LEACHATE CONTACT		
20921 - GAS MONITORING/CONTROL		 - - 	SECURITY 20530 - SITE SECURITY			***
20923 - MONITORING		╂╼┼╼┼╼┨	21135 - SECURITY AT C			
20925 - PERIMETER MONITORING NET	WORK		21137 - STRUCTURE RE			
20931 - STRUCTURE MONITORING			RECORDS	IIIO V / L		1 1 1 1 1 1 1 1
20932 - MONITORED PARAMETERS			21130 - EMERGENCY R	ESPONSE PLAN	<u> </u>	1
20933 - MONITORING FREQUENCY			21170 - RECORDING			_
20934 - REPORTING			21200 - CHANGE OF OV			
20937 - CONTROL GRADINGIFINAL COVER			CLOSURE PLANS		and the second	1.5 m/s
20650 - GRADING OF FILL SURFACES			21880 - CERTIFICATION			
21140 - FINAL COVER		 - - -		PPROVED PLANS FOR C/PC MA	AINT	
21142 - FINAL GRADING			OTHER			
21145 - SLOPE STABILITY						
			<u> </u>			
COMMENTS (USE CIWMB 3 FOR ADDITIONAL	L SPACE)					
SITE 1: Site inspection revealed	ed no problem areas. S	Site looked o	excellent.			
						
	Water 1991 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 - 1992 -					
SITE 22: No deficiencies to re	nort ac fix cil			-F - C 1.	- 1	
SITE 22: No deficiencies to re		4		surtace teatu	res. Erodi	10
bags of Sand/aox		<u>Deen</u> R	emoved.			J
Area of Concern 27	CCR 20925:	Perimeter	r aas monitorii	na wells need to	o be fitted	
and the state of t	etcock fitting to	الدرااه	proper sampli			44
	J.				un gas, wir	roul
the allution tr	om open air 1	when loc	ked cap is re	emoveal.		
		·				
				·		
DOOLINGUES DECEMBER						
DOCUMENTS RECEIVED SIN						
(1) Draft Site 1 Landfill Post Cl	osure Long-Term Morit	oring Plan -	Revision 0, June 16,	2004.		

STATE OF CALIFORNIA

CALIFORNIA INTEGRATED WASTE

Closed Disposal Site Inspection Report CIWMB-188 (New 6/04) MANAGEMENT BOARD **Enforcement Agency:** Santa Clara County, Department of Environmental Health - Local Enforcement Agency Page 1 of PROGRAM CODE FACILITY FILE NUMBER/JAK# INSPECTION TIME INSPECTION DATE TIME IN OCAL#L STATE#S DD TIME OUT /2:00 43-AA-0005 LOCAL = L 11/17/04 RECEIVED BY (OPERATOR) FACILITY NAME NASA/MOFFETT FIELD - Sites 1 & 22 Landfills Muraliana OWNER (FACILITY LOCATION Moffett Field, CA United States Government INSPECTOR SIGNATURE INSPECTOR ALSO PRESENT Chris Rummel, R.E.H.S. David Smith THE ABOVE FACILITY WAS INSPECTED FOR COMPLIANCE WITH APPLICABLE SECTIONS OF DIVISION 30 OF PUBLIC RESOURCES CODE (PRC) AND TITLE 27 CALIFORNIA CODE OF REGULATION (CCR). THE STANDARDS BELOW ARE CONSIDERED IN COMPLIANCE UNLESS OTHERWISE MARKED WITH ONE OF THE FOLLOWING: V = VIOLATION A = AREA OF CONCERN NA = NOT APPLICABLE POSTCLOSURE V A NA DRAINAGE AND EROSION CONTROL 20750 - SITE MAINTENANCE 20820 - DRAINAGE/EROSION CONTROL 21180 - POSTCLOSURE MAINTENANCE 21150 - DRAINAGE/EROSION CONTROL 21190 - POSTCLOSURE LAND USE MONITORING AND CONTROL SYSTEMS GAS MONITORING AND CONTROL SYSTEMS 20790 - LEACHATE CONTROL 20918 - EXEMPTIONS 20830 - LITTER CONTROL 20919 - GAS CONTROLS 21160 - LF GAS CONTROL/LEACHATE CONTACT 20919.5 - EXPLOSIVE GAS CONTROL SECURITY 20921 - GAS MONITORING/CONTROL 20530 - SITE SECURITY 20923 - MONITORING 21135 - SECURITY AT CLOSED SITES 20925 - PERIMETER MONITORING NETWORK 21137 - STRUCTURE REMOVAL 20931 - STRUCTURE MONITORING RECORDS 20932 - MONITORED PARAMETERS 21130 - EMERGENCY RESPONSE PLAN 20933 - MONITORING FREQUENCY 21170 - RECORDING 20934 - REPORTING 21200 - CHANGE OF OWNERSHIP 20937 - CONTROL **CLOSURE PLANS** GRADING/FINAL COVER 21880 - CERTIFICATION OF CLOSURE 20650 - GRADING OF FILL SURFACES 21890 - REVISION OF APPROVED PLANS FOR C/PC MAINT 21140 - FINAL COVER OTHER 21142 - FINAL GRADING 21145 - SLOPE STABILITY COMMENTS (USE CIWMB 3 FOR ADDITIONAL SPACE) SITE 1: Site inspection revealed no problem areas. Site looked excellent. SITE 22: No deficiencies to report. Corrected rea concern: All gas monitoring wells tor tirst-draw sampling DOCUMENTS RECEIVED SINCE LAST INSPECTION 8/18/04: None

2004 GENERAL SITE INSPECTION REPORTS

TABLE 1-3

SITE 1 LANDFILL

GENERAL INSPECTION LIST

Inspection Date:	January 19, 2004_	Inspector:	Bill Ogle	
mspection bate		********************************		

		T	Condition		
ite	Item	Good	Needs Maintenance	N/A	Comments
1	General Site				
	- access roads	X			
	- warning/instruction signs	X			
	- litter	Х			
	- traffic protection (check bollards)	Х			
	- inspect for nesting owls	Х			
	- heaved areas	X			
	- paint condition (vents, well, bollards)	Х			
	- security fencing/gates	Х			
	- check integrity of fence flashing	X			
	Landfill Cap				
	- erosion	X			
	- settling	Х			
	- settlement markers	Х			
	- cracking	X			
	- rodent burrows	X			No activity
	- vegetation restoration	Х			Excellent growth
	- deep rooted vegetation	X			
	- breaching of cap (from roots, burrows)	Х			None seen
	- water drainage	Х			Good
	- rip rap	Х			
	- paint and maintain bird perches	X			
	Landfill Gas Vents				
	- riser condition	Х			
	- concrete collar condition	X			
	- screen condition	X			
	Landfill Gas Monitoring Wells				
	- well cap integrity	X			
	- water drainage	X			
	- traffic protection	Х			
	- concrete collar condition	X			
	- screen condition	X			
	- locks	X			
	Gas Venting Trench	1		 	
	- riser integrity	X			
	Groundwater Extraction Trench Wells	T			
	- vault integrity	X			
	- water drainage	X			<u> </u>

			Condition	Ī	
te	Item	Good	Needs Maintenance	N/A	Comments
	- locks	Х			
	Groundwater Monitoring Wells				
	- well cap integrity	X			
	- water drainage	Х	, .		
	- locks	Х			
	Groundwater Piezometers				
	- well cap integrity	X			
	- water drainage	X			, , , , , , , , , , , , , , , , , , , ,
	- locks	X			
	Stormwater Runoff Control				
	- water drainage	X			
	- culvert/trench drainage	X			
	- culvert screen condition				Present Absent _X
	- rip rap	X			
	- settlement	X			
	- erosion	X			
	Painted bollards and well vault				
				a	furf

Notes:

N/A = Not Applicable

TABLE 1-3

SITE 1 LANDFILL

GENERAL INSPECTION LIST

Inspecction Date:	February 18, 2004	Inspector:	Bill Ogle	e	

			Condition		
ite	Item	Good	Needs Maintenance	N/A	Comments
1	General Site		Alexander Company		
	- access roads	X			
	- warning/instruction signs	X			
	- litter	Х			
	- traffic protection (check bollards)	Х			
	- inspect for nesting owls	X			
	- heaved areas	X			
	- paint condition (vents, well, bollards)	X			
	- security fencing/gates	X			
	- check integrity of fence flashing	X		<u> </u>	
	Landfill Cap	1		1	
	- erosion	Х			T
	- settling	X			
	- settlement markers	X			
	- cracking	X			
	- rodent burrows	X			No activity
	- vegetation restoration	T_{X}			Excellent growth
	- deep rooted vegetation	X			
	- breaching of cap (from roots, burrows)	X		<u> </u>	
	- water drainage	X	Cleanup at the culverts		Good
	- rip rap	X	Ciculiap at the curverts	ļ	1000
	- paint and maintain bird perches	$\frac{1}{x}$			
	Landfill Gas Vents			1	<u> </u>
	- riser condition	X			
	- concrete collar condition	X			
	- screen condition	X			
	Landfill Gas Monitoring Wells			1	
	- well cap integrity	X			
	- water drainage	X			
	- traffic protection	х			
	- concrete collar condition	X			
	- screen condition	Х			
	- locks	Х			, , , , , , , , , , , , , , , , , , , ,
	Gas Venting Trench				
	- riser integrity	X			
	Groundwater Extraction Trench Wells				
	- vault integrity	X			
	- water drainage	X			

Item Good Needs Maintenance N/A Comments - locks X Groundwater Monitoring Wells - well cap integrity X - water drainage X - locks X Groundwater Piezometers - well cap integrity X - water drainage X - water drainage X - locks X Stormwater Runoff Control - water drainage X - culvert/trench drainage X - rip rap X - settlement X - erosion X Additional Comments:	- locks Groundwater Monitoring Wells - well cap integrity X - water drainage X - locks X Groundwater Piezometers - well cap integrity X - water drainage X - locks X Stormwater Runoff Control - water drainage X - culvert/trench drainage X - culvert screen condition - rip rap - settlement - erosion X Additional Comments:		<u> </u>		Condition			
Groundwater Monitoring Wells - well cap integrity	Groundwater Monitoring Wells - well cap integrity	e	Item	Good	Needs Maintenance	N/A		Comments
- well cap integrity	- well cap integrity			Х				
- water drainage	- water drainage		Groundwater Monitoring Wells	1				
- locks Groundwater Piezometers - well cap integrity	- locks Groundwater Piezometers - well cap integrity		- well cap integrity	X				
Groundwater Plezometers - well cap integrity	Groundwater Plezometers - well cap integrity		- water drainage	X				
- well cap integrity	- well cap integrity			X				
- water drainage	- water drainage		Groundwater Piezometers					440.00
- locks X Stormwater Runoff Control - water drainage X - culvert/trench drainage X - culvert screen condition Present Absent X - rip rap X - settlement X - erosion X Additional Comments:	- locks X Stormwater Runoff Control - water drainage X - culvert/trench drainage X - culvert screen condition Present Absent X - rip rap X - settlement X - erosion X Additional Comments:		- well cap integrity	X				
Stormwater Runoff Control - water drainage	Stormwater Runoff Control - water drainage		- water drainage	X				
- water drainage	- water drainage			Х				
- culvert/trench drainage X Present Absent X - culvert screen condition Present Absent X - rip rap X - settlement X - erosion X Additional Comments:	- culvert/trench drainage X Present Absent X - culvert screen condition Present X - rip rap X - settlement X - erosion X Additional Comments:		Stormwater Runoff Control					
- culvert screen condition Present Absent _X - rip rap	- culvert screen condition							
- rip rap X - settlement X - erosion X Additional Comments:	- rip rap X - settlement X - erosion X Additional Comments:		- culvert/trench drainage	X				
- settlement X - erosion X Additional Comments:	- settlement X - erosion X Additional Comments:		- culvert screen condition				Present	_ Absent _X
- erosion X Additional Comments:	- erosion X Additional Comments:		- rip rap	X				
Additional Comments:	Additional Comments:		- settlement	X				
			- erosion	X				
Lly 3 Ch	lyget					L	ly of	,
Sturf	Swef					L	fwef	,
Short	Short					L	fleet	, , , , , , , , , , , , , , , , , , ,

Notes:

N/A = Not Applicable

TABLE 1-3

SITE 1 LANDFILL

GENERAL INSPECTION LIST

			Condition		
Site	Item	Good	Needs Maintenance	N/A	Comments
1	General Site		1.00		
	- access roads	X			Cut weeds along berm
	- warning/instruction signs	X			
	- litter	X			
	- traffic protection (check bollards)	X			
	- inspect for nesting owls	X			Owl seen at Site 2
	- heaved areas	Х			
	- paint condition (vents, well, bollards)	Х			
	- security fencing/gates	Х	· · · · · · · · · · · · · · · · · · ·		
	- check integrity of fence flashing	Х			
	Landfill Cap				
	- erosion	Х	:		
	- settling	X			
	- settlement markers	Х			
	- cracking	X			
	- rodent burrows	Х			One burrow in 3 months
	- vegetation restoration	X			Excellent growth
	- deep rooted vegetation	X			
	- breaching of cap (from roots, burrows)	Х			
	- water drainage	Х		<u> </u>	
	- rip rap	X			
	- paint and maintain bird perches	х		<u> </u>	
	Landfill Gas Vents			1	
	- riser condition	Х			
	- concrete collar condition	Х			Two repaired
	- screen condition	Х			
	Landfill Gas Monitoring Wells				
	- well cap integrity	X			
	- water drainage	X			
	- traffic protection	X			
	- concrete collar condition	X			
	- screen condition	X			
	- locks	Х			
	Gas Venting Trench				T
	- riser integrity	X			
	Groundwater Extraction Trench Wells	***************************************		T	
	- vault integrity	X		<u> </u>	
	- water drainage	X		}	1

			Condition		
e	Item	Good	Needs Maintenance	N/A	Comments
	- locks	X			
	Groundwater Monitoring Wells				
	- well cap integrity	X			
	- water drainage	Х			
	- locks	X			
	Groundwater Piezometers				
	- well cap integrity	X			
	- water drainage	X			
	- locks	Х			
	Stormwater Runoff Control				
	- water drainage	X			
	- culvert/trench drainage	X			
	- culvert screen condition				Present Absent _X
	- rip rap	X			
	- settlement	X			
	- erosion	X			
	Additional Comments:				
				L	fleof

Notes:

N/A = Not Applicable

TABLE 1-3

SITE 1 LANDFILL

GENERAL INSPECTION LIST

Inspection Date: August 17, 2004 Inspector: Bill Ogle

			Condition		
ite	Item	Good	Needs Maintenance	N/A	Comments
1	General Site				
	- access roads	X			
	- warning/instruction signs	X			
	- litter	X			
	- traffic protection (check bollards)	X			
	- inspect for nesting owls	Х			
	- heaved areas	X			
	- paint condition (vents, well, bollards)	X			In progress
	- security fencing/gates	X			
	- check integrity of fence flashing	X			
	Landfill Cap	1 1		1	
	- erosion	X			
	- settling	Х			
	- settlement markers	X			
	- cracking	X			
	- rodent burrows	X			Three found in one month
	- vegetation restoration	X	1,100,000	1	
	- deep rooted vegetation	X		<u> </u>	None found
	- breaching of cap (from roots, burrows)	X		 	110110 104110
	- water drainage	X		 	
	- rip rap	X		 	
	- paint and maintain bird perches	X			In progress
	Landfill Gas Vents		L		in progress
	- riser condition	X		T	
	- concrete collar condition	X			Repaired all
	- screen condition	X			
	Landfill Gas Monitoring Wells				
	- well cap integrity	Х			
	- water drainage	X			
	- traffic protection	X			
	- concrete collar condition	X		1	
	- screen condition	X			
	- locks	X			
	Gas Venting Trench		<u> </u>		
	- riser integrity	X			
	Groundwater Extraction Trench Wells				
	- vault integrity	X			
	- water drainage	X			

- well ca - water of - locks Ground - well ca - water of - locks	Item water Monitoring Wells ap integrity drainage water Piezometers ap integrity drainage	X X X		
- well ca - water of - locks Ground - well ca - water of - locks	ap integrity drainage Iwater Piezometers ap integrity	X X X		
- well ca - water of - locks Ground - well ca - water of - locks	ap integrity drainage Iwater Piezometers ap integrity	X X X		
- water of - locks Ground - well cate - water of - locks	drainage water Piezometers ap integrity	XXX		
- locks Ground - well ca - water of	Iwater Piezometers	X		
- well ca - water of - locks	ap integrity			
- well ca - water of	ap integrity			
- water of		X		
- locks	drainage			
		X		
Stormw		X		
	ater Runoff Control		T T	and the second second
- water	drainage	X		
- culver	t/trench drainage	X		
- culver	t screen condition	X	Pr	resent X Absent
- rip rap	,	X		
- settlen	nent	X		
- erosio	n	X		

Notes:

N/A = Not Applicable

TABLE 4-1

SITE 1 LANDFILL GENERAL INSPECTION CHECKLIST AND FREQUENCY

		Condition			
Item	Frequency	Good	Needs Maintenance	N/A	Comments
General Site Conditions					
- Perimeter Road	Quarterly ^a	V			
- landfill signs	Quarterly	V			
- inspect for nesting owls and burrowing animals	Quarterly ^a	V			No BURROWS FOUND
- security fencing and gates	Quarterly	\checkmark			
- riprap	Quarterly*	V			
Landfill Cap					
- settlement monitoring (survey monuments)	Every 5 Years				
- erosion	Quarterly ^a	<u> </u>			
- visual observations of settling (i.e., cracking, sloughing)	Quarterly ^a				
- vegetation control and restoration	Quarterly ^a				
- cap breaching	Quarterly ^a				
- water drainage	Quarterly*	<u> </u>			EXCELLENT DID NOT MOVE ANY
- paint and maintain raptor perches	Quarterly*	~			DID NOT MOVE ANG
Landfill Gas Vents					
- riser condition (i.e., paint, integrity)	Semiannual	1			
- concrete collar condition	Semiannual	<u></u>			
- screen condition	Semiannual	1 /			
Landfill Gas Monitoring Wells					
- riser condition (i.e., paint, integrity)	Semiannual	6/			
- traffic protection (i.e., bollards)	Semiannual	V			
- concrete collar condition	Semiannual	W			
- well cap integrity	Semiannual	<u> </u>			
- water drainage	Semiannual	<u> </u>			
- well locks	Semiannual			·	
Collection Trench Wells					
- concrete collar condition	Semiannual	<u> </u>		·····	
- protective cover condition	Semiannual	<u></u>			
- well cap integrity	Semiannual	<u> </u>			
- water drainage	Semiannual	<u> </u>			
- well locks	Semiannual	<u> </u>			

Site 1 Landfill Post-Closure Long-Term Maintenance Plan Former Naval Air Station Moffett Field DCN: FWSD-RAC-04-2^c CTO No. 0086, Revision 0, 06/18

TABLE 4-1

SITE 1 LANDFILL GENERAL INSPECTION CHECKLIST AND FREQUENCY

		Condition			
Item	Frequency	Good	Needs Maintenance	N/A	Comments
Groundwater Monitoring Wells and Piezometers					
- riser condition (i.e., paint, integrity, cover)	Semiannual		WI-IR NEEDS PAINT		
- concrete collar condition	Semiannual	V			
- traffic protection (i.e., bollards)	Semiannual	V			
- well cap integrity	Semiannual	<u></u>			
- water drainage	Semiannual	<u></u>			
- well locks	Semiannual				
Stormwater Runoff Control					
- water drainage	Semiannual ^a	-			
- culvert and trench drainage	Semiannual ^a	~			SCREENS STILL IN PLACE
- riprap	Semiannual ^a	~			
- erosion	Semiannual ^a				
- settlement	Semiannual ^e	✓			

Notes:

(a) Frequency indicates minimum requirements. Inspections are required after signicant storm events and as needed.

Abbreviations and Acronyms:

N/A - not applicable

HULOVE 11-15-04)

APPENDIX I RESPONSE TO COMMENTS

EPA COMMENTS ON DRAFT SITE 1 LANDFILL 2004 ANNUAL REPORT REVISION 0, JUNE 22, 2005 FORMER NAVAL AIR STATION MOFFETT FIELD MOFFETT FIELD, CALIFORNIA

Comments dated: August 26, 2005

Comments by: Lida Tan, Remedial Project Manager

Superfund Federal Facility Branch

EPA Region 9

GENERAL COMMENTS

Comment 1:

The Draft Site 1 Landfill 2004 Annual Report (Report) lists Calculated Concentration Limits (CCLs) for each constituent of concern (COC). The Report indicates that in some cases, the CCL was raised to meet the available method detection limit (MDL). However, according to the analytical results presented in Appendix B, the reporting limit exceeds the CCL for most of the dissolved metals and several of the semivolatile organic compounds (SVOCs), in some cases by one or two orders of magnitude. Therefore, based on the information presented in the Report, it can not be concluded that the constituents listed as 'not detected above the project reporting limit' are below the CCL. Please revise the Report to clarify that for many constituents the reporting limits exceed the CCL, and discuss how this affects the interpretation of the analytical data.

Response 1:

The *Technical Memorandum* (Tech Memo) *Site 1 Groundwater Evaluation Process* was finalized April 8, 2004. The reporting limit for most of the dissolved metals and select semivolatile analytical results obtained during the March 2004 sampling event (collected and analyzed prior to finalizing the Tech Memo) do exceed the calculated concentration limit (CCL), but they were conducted under the former groundwater sampling and analysis program at Site 1. Subsequent sampling events (May and November 2004) have been conducted in accordance with the Tech Memo, which required a new laboratory method for dissolved metals that obtained reporting limits below the respective CCLs.

Select SVOC reporting limits (the sample quantitation limit [SQL] value shown on Table 3-1) do exceed the CCL. For example, the SQL for Caprolactam is listed on Table 3-1 as $10 \mu g/L$, and the May 2004 result for the groundwater sample collected from monitoring well W1-1 is 9.4U $\mu g/L$. However, the method detection limit (MDL) for

Caprolactam is 5 μ g/L (see Table 3-1), which is also the CCL. If there was a detection of Caprolactam equal to or greater than 5 μ g/L and less than 9.4 μ g/L, the value would be reported as an estimated value (flagged with a "J" by the laboratory). Estimated concentrations are considered detections in the groundwater evaluation process. The duplicate sample for well W1-1 for May 2004 shows the validity of this methodology, as the Caprolactam concentration is reported as 6.2J μ g/L.

All of the compounds that have CCLs less than the SQL, have the CCL equal to the MDL. Therefore, the methodology will identify any compound that exceeds a CCL.

No change in text is proposed.

Comment 2:

The conclusion of the Report summarizes the same information that was presented in the previous sections of the Report; however, no real conclusions are provided. To make the Report more useful for reviewers, please revise the Report to provide conclusions as to whether the data indicate there has or has not been a release from the landfill to groundwater, whether landfill gas is migrating offsite, and whether the landfill cover is intact and functional.

Response 2:

Concur. The last few paragraphs of Section 5.0 have been revised as follows:

There were no detections of dissolved mercury or of any SVOC greater than the laboratory reporting level for the supplemental groundwater samples collected in July, August, September, and December 2004. In accordance with the Tech Memo (TtFW, 2004), analytical results obtained throughout 2004 indicate that there has not been a release from the landfill to groundwater.

As part of landfill monitoring activities, methane monitoring was conducted for 19 passive gas vent wells within the Site 1 Landfill and 4 landfill gas monitoring wells on the perimeter of the landfill. Gas monitoring is also performed at the perimeter of the site at 150-foot intervals. **No landfill gas is migrating offsite.**

In general, the percentages of methane gas concentrations within the landfill were slightly lower in November 2004 than in March or May 2004 and are similar to historical concentrations. Methane concentrations were highest in May 2004, near the northern portion of the landfill (GV-8 at 57.9 percent), followed by a detected concentration of 52.1 percent in GV-11, which is near the center of the landfill. None of the perimeter wells showed concentrations of

methane above the concentrations limit of 5 percent (all readings were zero percent). Methane was not detected at any of the perimeter monitoring locations in March, May, or November 2004.

As part of landfill maintenance activities, the landfill is routinely inspected and repaired, as necessary. The landfill cover is intact and functional.

SPECIFIC COMMENTS

Comment 1:

Executive Summary, page ES-2: The second paragraph on this page indicates that bis(2-ethylhexyl)phthalate (BeP) exceedance of the CCL is considered to be false positive because BeP is often a laboratory contaminant. It is true that BeP is a common laboratory contaminant, but BeP can also be a site contaminant. The knowledge that BeP can be a laboratory contaminant is not sufficient to qualify sample results as such. Results should only be considered questionable when the concentrations of BeP in either laboratory blanks or blank samples collected during sampling are high enough (pursuant to Functional Guidelines Criteria) to justify qualifying the associated client sample results. Please revise the Report to include BeP results in the release analysis or to clarify if the above criteria were met.

Response 1:

BeP results have been included in the groundwater evaluation process. The end of the fourth paragraph on page 5-3, which continues on 5-4, states:

Both the BeP and caprolactam CCL exceedances were only in the duplicate sample. BeP and caprolactam were not detected in the regular sample collected from this well at the same time as the duplicate sample. In addition, BeP is often a laboratory contaminant. However, since this was the first time SVOCs were sampled at Site 1, there was no historical database for comparison. BeP and caprolactam were not detected in the July and August supplemental groundwater sampling events. The May CCL exceedance for these compounds is treated as a false positive, and these compounds were removed from further consideration.

The comment about BeP being a common laboratory contaminant is a side bar note. The analysis for BeP followed the Tech Memo requirements, looking at the subsequent July and August results. The false positive determination is based on not meeting the two out of three detections rule.

No change in text is proposed.

Comment 2:

Section 1.2, 2004 Monitoring and Maintenance Activities, Page 1-1: The first sentence in this section refers to monitoring and maintenance

activities conducted in 2004. However, only the monitoring activities are listed. Since the maintenance activities are discussed later in this section, and to avoid confusion, please delete the word 'maintenance' from the first sentence.

Response 2:

Concur. The first sentence of the first paragraph of Section 1.2 has been revised as follows:

Monitoring and maintenance activities conducted in 2004 at Site 1 included depth to groundwater measurements, groundwater sampling, and methane monitoring.

Comment 3:

Section 1.2, 2004 Monitoring and Maintenance Activities, Page 1-2: The Report states that the sampling frequency and some analyses were modified in 2004 and that sampling was conducted in March, May, and November, but it is not clear from these three sampling dates whether the sampling schedule is semi-annual rather than quarterly or if sampling is done at some other frequency. Please clarify the new sampling frequency and indicate whether this change is temporary or permanent, and whether the new analyses will be included in all future sampling events.

Response 3:

Concur. The first and second paragraphs in Section 1.2 have been revised as follows:

Monitoring and maintenance activities conducted in 2004 at Site 1 included depth to groundwater measurements, groundwater sampling, and methane monitoring. Groundwater monitoring at Site 1 was conducted during 2004 in accordance with the Site 1 Landfill Final Closure Plan and Post-Closure Maintenance Plan (Tetra Tech EM, Inc. [TtEMI], 1998), the Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) Sampling and Analysis Plan (International Technology Corporation [IT], 2000), the Final Sampling and Analysis Plan Addendum for Post-Closure Monitoring (Site 1) and Groundwater Monitoring (Site 2) (Foster Wheeler Environmental Corporation [FWENC], 2001a), and the Final Site-Specific Contractor Quality Control Plan for Sites 1 and 2 Groundwater Monitoring and Maintenance (FWENC, 2001b). The groundwater evaluation process was revised between the March and May 2004 sampling events, in accordance with the Technical Memorandum Site 1 Groundwater Evaluation Process (Tech Memo) (Tetra Tech FW, Inc. [TtFW], 2004), which was finalized in April 2004.

As requested approved by the regulatory agencies, the sampling frequency and some analyses were modified in 2004 in accordance with the Tech Memo. Sampling was conducted in March, May and November instead of quarterly. Quarterly

sampling was continued through March 2004. The Tech Memo was issued in April 2004, which states that semiannual sampling will be conducted in May and November 2004. Mercury was added to the groundwater analytes sampled in March 2004, and mercury and semivolatile organic compounds (SVOCs) were added to the analytes sampled in May and November 2004.

Comment 4:

Section 1.2, 2004 Monitoring and Maintenance Activities, Page 1-2: This section discusses the replacement of monitoring well W1-1, please provide the rationale for the replacement of W1-1. In addition, the section states that Well W1-1R which replaced W1-1 was developed in conformance with ASTM D5521-94. This ASTM standard was withdrawn in 2003 and replaced by newer standards. Please cite one of the current standards for purging and developing groundwater monitoring wells.

Response 4:

Regarding the replacement of W1-1, the following paragraph has been revised as follows:

Monitoring well W1-1 was replaced in August 2004 due to corrosion of the well riser and outer protective casing. Installation of monitoring well W1-1R was completed on August 13, 2004. Table 1-1 provides well construction information for all Site 1 monitoring wells. Monitoring well W1-1R was constructed using techniques that conform to American Society for Testing and Materials (ASTM) D5092-04. Well W1-1R was located as close as possible to the original well and screened in approximately the same interval. Development of well W1-1R was completed on August 16, 2004. W1-1R was developed using a combination of surging and pumping that conforms to ASTM D5521-94. The boring log, well completion report, survey report, well development log, and well construction application are included in Appendix G.

ASTM D5521-94e1 was withdrawn in 2002/2003, with no replacement. It was removed due to ballot inactivity after a 5 years time period. The subcommittee chairman usually requests re-approvals after 5 years, but this one was inadvertently missed, and ASTM removed it. The subcommittee chairman is currently balloting for reinstatement. It should be back on the books in a few months.

No change in text is proposed.

Comment 5:

Section 1.2, 2004 Monitoring and Maintenance Activities, Page 1-3: With regard to maintenance activities, the Report states that no problems were noted during Santa Clara County Department of Health (DEH) inspections. However, according to the inspection checklists in Appendix H, there are several minor issues noted. Please

include a short discussion on these issues and the actions that were taken to address them.

Response 5:

The inspection checklist does not note any minor issues associated with the Site 1 Landfill. However, there were a few minor issues noted during the Site 22 inspection, which is addressed on the same form.

No change in text is proposed.

Comment 6:

Section 2.1, Groundwater Gradient and Flow Direction, Page 2-2: The Report indicates that depth to groundwater measurements were collected from 12 monitoring wells, 2 piezometers, and 2 collection trench wells on each monitoring date, but some of the wells and piezometers were not measured on July 6. Please clarify which wells were not measured on July 6, 2004 and explain why these measurements were not collected.

Response 6:

Concur. The text in Section 2.1, Page 2-2, third paragraph was revised as follows:

Depth to groundwater measurements were collected from 12 monitoring wells, 2 piezometers, and 2 collection trench wells at the Site 1 Landfill on:

- March 22, 2004
- May 24, 2004
- July 6, 2004
- August 18, 2004
- September 27, 2004
- November 8, 2004
- December 13, 2004

Depth to groundwater measurements were also collected on July 6, 2004. However, only the wells that were sampled were gauged for depth to groundwater measurements.

Comment 7:

Several monitoring wells were not included in the evaluation of the potentiometric surfaces; however, for some of these wells, the reason for their exclusion is not clear. For example, the water levels in W1-19 in August 2004 and W1-16 in December 2004 appear to be within the range of typical values for these wells according to the

hydrographs in Appendix D. Furthermore, well W1-16 was not included in the potentiometric evaluation for five of the seven monitoring events. It appears unlikely that there would be errors in field measurement for the same well repeatedly. Please provide further justification for excluding these wells from the groundwater gradient evaluation, especially when excluding data similar to the historical range for a particular well. Also, please provide further evaluation of the anomalous readings for well W1-16 and discuss whether exclusion of any wells from the sampling program affected the established monitoring points and points of compliance.

Response 7:

Concur. The water levels were reevaluated and included in the potentiometric surface contours. Therefore, Figure 2-2, Figure 2-3, Figure 2-4, Figure 2-5, Figure 2-7, and Figure 2-8 were revised. Furthermore, the text in Section 2.1, Page 2-3, first paragraph, was revised as follows:

The following monitoring wells were not included in the evaluation of the potentiometric surface: . It appears that the wells were gauged before the water levels in these wells stabilized from removing the water-tight compression caps or the field measurements were recorded in error.

- March 2004 W1-19
- May 2004 W1-1, W1-15, and W1-16
- July 2004 W1-16 and W1-20 (W1-20 inadvertently not measured)
- August 2004 W1-16 and W1-19
- November 2004 W1-15, W1-16, and W1-24
- December 2004 W1-16

In May 2004, it appears that the water level measurement in well W1-16 was recorded in error.